Cambridge Isotope Laboratories, Inc.
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RESEARCH PRODUCTS

Stable Isotope Standards For Mass Spectrometry

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The CIL Customer Service Department is open from 8:00 a.m. to 5:00 p.m. Eastern Time.
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You can find all of the information presented in this catalog on isotope.com. Visitors to our website can immediately access updated product information, availability, pricing, and documentation, such as a certificates of analysis (CoA) and safety data sheets (SDS). Visit isotope.com to learn more.

Cambridge Isotope Laboratories, Inc. (CIL) is the world leader in the separation and manufacture of stable isotopes and stable isotope-labeled compounds. Isotope separation is performed at CIL Isotope Separations (CIS) in Xenia, Ohio – home of the world's largest ^{13}C isotope separation facility, one of the world's largest ^{18}O isotope-separation facilities, and the world's only commercial large-capacity D_2O enrichment columns. For over 40 years, CIL has remained the premier supplier of stable isotope standards for MS, NMR, and MRS/MRI research applications. The products include bile acids, carbohydrates, drugs and their metabolites, fatty acids and lipids, free and protected amino acids, metabolomics mixes, organic acids and their derivatives, steroids and hormones, and vitamins and their metabolites. Our products have been specifically designed and tested with the most discerning mass spectrometrists in mind. CIL actively supports the MS community through meeting sponsorships and customer collaborations.

Ordering and Contact Information

Placing an Order

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CIL products are constantly updated on the website so be sure to visit https://shop.isotope.com for current information.

Please help us to expedite the shipment of your order by including the following information:

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- Billing address
- Purchase order number or credit card information
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- Catalog price or CIL quotation number
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- Domestic shipping charges will be added to invoices (unless collect shipment is requested).

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- Shipping terms are FCA Andover, MA USA. Any damage to the package or product in transit is the buyer's responsibility to adjust with the carrier.

Shipping Information

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- Shipments within the United States will be sent via UPS, FedEx, or truck.
- Orders within the United States for in-stock items placed before 2:00 p.m. (ET) can ship the same day via FedEx or on the next working day via UPS.

Canada

- Canadian shipments will be sent via FedEx or truck.
- Please include the name of your customs broker.
- Orders to Canada for in-stock items will ship one to two working days after receipt of purchase order.

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- International shipments will be sent via FedEx or best method.
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We will accommodate your shipping instructions whenever it is feasible to do so. CIL reserves the right to change the method of transportation, if required, to comply with transportation regulations. Such a change would not alter your responsibility for payment of shipping charges. Additional shipping charges may apply.

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Returns may be made within 30 days of shipment with prior approval from CIL. We reserve the right to impose restocking charges when a return is at the sole option of the buyer. The buyer is responsible for approving the quality and quantity of any product within the 30-day period stated above. If an error by CIL results in an incorrect or duplicate shipment, a replacement will be sent or the appropriate credit allowed. We typically request return of the original product. Product returns must reference the original purchase order number, CIL order number (e.g., DB-A1000), Returned Goods Authorization (RGA) number, and the date CIL authorized the return. Under no circumstances will credit or replacement be given for products without prior authorization by CIL.

Product Information

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A Certificate of Analysis (CoA) and a Safety Data Sheet (SDS) are supplied with every shipment. Additional product information may be available upon request.

The chemical purity (CP) of CIL products is 98%, unless otherwise specified.

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Research Use Statement

CIL research products are labeled "For research use only. Not for use in diagnostic procedures." Persons intending to use CIL products in applications involving humans are responsible for complying with all applicable laws and regulations, including, but not limited to, the US Federal Drug Association (FDA), other local regulatory authorities, and institutional review boards concerning their specific application or desired use.

It may be necessary to obtain approval for using these research products in humans from the US FDA or the comparable governmental agency in the country of use. CIL will provide supporting information, such as lot-specific analytical data and test-method protocols, to assist medical research groups in obtaining approval for the desired use.

Additional Information

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CIL and its direct subsidiary CIL Isotope Separations, LLC, are registered with Emergency Response CHEMTREC®. In the event of a chemical-transportation emergency, CHEMTREC provides immediate advice for those at the scene of emergencies, then promptly contacts the shipper of the chemicals for more detailed assistance and appropriate follow-up. CHEMTREC operates 24 hours a day, seven days a week to receive emergency calls. In the case of chemical-transportation emergencies, call one of the following numbers:

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Importance of Stable Isotope Standards and Their Implementation in Mass Spectrometry

Technical Note


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The implementation of mass spectrometry (MS) in the preclinical/clinical laboratory has been garnering more attention over the past couple of decades.[1] Among the reasons for this are the performance benefits that MS-based methods can afford. This pertains to the high specificity, reproducibility, and sensitivity achieved through tandem MS operations (e.g., selected or multiple reaction monitoring). As with any technology, there are a few limitations worth noting. These include the upfront instrument investment and its complexity, as well as the result turnaround time. Nonetheless, as the breadth of instruments and data analysis tools continue to advance, the limitations appear to be diminishing, while the overall merits, relative to historical clinical techniques, are amplifying. Example applications that have capitalized on the analytical power of mass spectrometry include endocrinology,[2] therapeutic drug monitoring,[3] and newborn screening (for inborn errors of metabolism).[4] The aim of these, and other clinical MS screens, is to help improve the path to diagnosis. From this, specific treatments can be effectively implemented at the earliest time leading to enhanced patient care and longevity.

To facilitate accurate MS-based measurements, stable isotope-labeled standards must be incorporated. The preferred approach here is to add the labeled standard in a precise and constant amount to both the experimental samples, as an internal standard (IS), as well as the standard curve and QC samples. For utmost accuracy, the curve samples should be generated in an equivalent sample type such that the matrix effects and extraction efficiency are identical. Only by adding the labeled standard as an IS can recovery differences be effectively resolved. With IS use, the type and its point of insertion are two critical factors that a researcher faces in designing a clinically relevant, MS-based method. This is critical to qualitatively evaluate the assay's effectiveness and to help guide corrective measures, as necessary.

The nature of IS can take many forms but is conventionally a compound, or mixture of compounds, that has been labeled with one or more stable isotopes (e.g., ^{13}C, ^{15}N, and/or D). The position and number of stable isotopes in a given compound is predicated on the sample preparation and method of analysis. If, for instance, D-labeling is preferred for a certain metabolite, the labels must be inserted at nonexchangeable positions to mitigate the effects of hydrogen-deuterium exchange. Regardless of the type of isotope incorporated, the labeled standards should ideally bear a total mass shift of 3 Da minimum from its unlabeled counterpart (to enable swift metabolite MS analysis) and be well characterized (e.g., for chemical and/or chiral purity, isotopic enrichment). In terms of the number of labeled standards required for a given experiment, it is recommended that this number equate to the number of target analytes. While this is generally practical for small panel analyses (as would be typical in a clinical experiment), it is common with large panels (as utilized in preclinical experiments) to select certain labeled standards as surrogates for compounds that lack a labeled analogue. This practice is considered acceptable in quantification exercises provided that the surrogates exhibit similar elution times, and thus bear similar physicochemical properties as their native targets.

Given the complexity of human biological samples, in terms of depth and breadth of analytes, it is recommended that the labeled IS be added as early as possible in the analytical workflow. In so doing, losses or modifications that occur during the sample preparation and processing steps can be adequately accounted for. Since the standard is designed to match its native analogue and behave similarly (in terms of its separation, ionization, and fragmentation), any changes that occur on one will, in theory, be reflective on the other. Therefore, in analysis, the analyte can be

quantified using relative ratios (i.e., unlabeled/labeled) of peak areas as opposed to their absolute values. In addition to the experimental samples, this approach is applied to other sample types, such as standard curve and curve QCs (at low, medium, and high concentrations). While the response of the labeled and unlabeled analyte will differ in curve and QC samples, the point of elution will not (valid particularly with ^{13}C and/or ^{15}N standards), enabling their relative ratios for quantitation or performance assessment to be effectively determined.

The importance of stable isotope-labeled standards in the rapidly evolving clinical MS field is becoming increasingly more recognized. This pertains to both small and large molecule analysis,[5] with applications covering diagnostic testing and drug therapy monitoring, among others. Regardless of the application type, a well-executed clinical MS method should be automated and well controlled. In the assays deemed fit for purpose, the highly characterized standards should be inserted for not only accurate quantitation, but also for system suitability reliance to enable complete accounting of all possible losses or errors.[6] This relates to human errors (e.g., improper pipetting), chemical errors (e.g., analyte extraction, hydrolysis), and instrument errors (e.g., ion suppression, matrix effects). The labeled standards that CIL provides can be, and have been, utilized in this realm. The product listing, perspectives, and applications herein provide such examples.

References

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3. Maurer, H.H. **2018**. Mass spectrometry for research and application in therapeutic drug monitoring or clinical and forensic toxicology. *Ther Drug Monit, 40(4),* 389-393.
4. Ombrone, D.; Giocaliere, E.; Forni, G.; et al. **2016**. Expanded newborn screening by mass spectrometry: New tests, future perspectives. *Mass Spectrom Rev, 35(1),* 71-84.
5. Ketha, S.S.; Singh, R.J.; Ketha, H. **2017**. Role of mass spectrometry in clinical endocrinology. *Endocrinol Metab Clin North Am, 46(3),* 593-613.
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Benefits of ^{13}C vs. D Standards in Clinical Mass Spectrometry Measurements

Technical Note


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The capabilities of mass spectrometry (MS) have made this analytical technique an invaluable tool in clinical-based developments and applications. As with any clinical test, accurate and precise results are paramount toward correct diagnosis and treatments. In MS testing, reliable results are best achieved by the inclusion of stable isotope-labeled standards. The utility of such standards has been demonstrated in clinical and translational research (see **page 6** of this catalog for a background article), with their benefits including the ability to help compensate for matrix effects and ion suppression.[1] For optimum results, the standards should be added as early in the analytical workflow as possible, such that they can effectively normalize the variations that may arise throughout the experimental stages. The nature of labeled standards is a critical element of a method and is predicated on its availability/cost, as well as the study design and research aims. Important to recognize in the standard selection process is the isotope differences (e.g., between ^{13}C and D) and the potential impact this may have in the pre-analytical (e.g., storage and handling) and analytical (e.g., sample preparation and processing) phases. As standard selection is not always a straightforward procedure, this article compares the commonly used ^{13}C and D isotopes from production to analysis in an effort to edify the challenges and guide future selections.

Standards labeled with ^{13}C (and/or ^{15}N) have demonstrated broad research utility over the past couple of decades. This stems partly from the chemical stability of its isotope. Its stability ensures that the isotope remains intact irrespective of the experimental methodology employed (e.g., multidimensional LC or derivatization-based GC prior to MS/MS). In other words, the ^{13}C (and ^{15}N) isotope remains positioned at its point of synthesis throughout all stages of an analytical workflow (includes extraction, derivatization, separation, and analysis in metabolomics). This provides flexibility to the end user as there is no limitation on the choice of sample/solution preparation nor the mode of MS/MS analysis. Since ^{13}C (and/or ^{15}N) standards have exceptional isotope stability, as compared to their deuterated counterparts, these can be inserted at an early stage of sample preparation. Of additional benefit is that this type of labeled compound co-elutes with its corresponding unlabeled (i.e., native or endogenous) analyte during chromatographic separation. This co-eluting result is optimal in correcting for both ion suppression and matrix effects. Further to the benefits, ^{13}C (and/or ^{15}N) standards are absent from isotope scrambling or loss during ionization and collisional activation in the mass spectrometer. Owing to these collective merits, ^{13}C (and/or ^{15}N) standards have incurred great value in preclinical and clinical MS applications (from qualification to absolute quantification).

Despite the benefits of ^{13}C (and ^{15}N) labeling, the production of such standards could entail complex and laborious synthesis. While carefully selected structural analogues (with ^{13}C and/or ^{15}N) may instead be used in cases where it is cost or time prohibitive to obtain or synthesize the required standard, deuterated standards are an alternate option to consider. These are comparatively straightforward to prepare, but invoke a number of potential issues at the pre-analytical and analytical phases. The first pertains to the isotope stability. If the D-label is placed at an exchangeable position (i.e., at acidic and polar groups), it could be susceptible to an isotope effect during storage and later in analysis. In this effect, the location of deuterium may scramble or undergo an exchange reaction with protium in solution or in the gas phase. Another situation to consider is deuterium loss on specific compounds from enzymatic reactions (e.g., deuterium abstraction from fatty acids due to fatty acid desaturation).[2] The impact of these collective effects could be significant and is best illustrated by a hypothetical example. In a complete exchange scenario, for instance, the labeled signal at the mass spectrometer would be unmeasurable, while the unlabeled signal (i.e., M+0) would be elevated. This would provide an invalid view of a patient's biochemistry and a false impression of the assay's fitness, a result that would clearly contribute to "imprecision medicine" in laboratory diagnostics. While this deleterious impact could be overcome by selecting alternate MRM transitions (i.e., at sites verified to have label due to consistent scrambling), a preferred approach would be to incorporate deuterium at chemically inert, nonexchangeable positions. Doing so would aid its stability, but the integrity of the deuterated standards would still need to be validated at all phases of the analytical workflow (from reconstitution through extraction to MS analysis). Complicating these assessments is the difference in physicochemical properties between deuterium and hydrogen. The difference causes deuterated standards to typically exhibit an altered chromatographic retention from its native analogues.[3] This elution impact is most pronounced in LC separations, but may also occur in GC separations. The shift could complicate the accuracy/reproducibility of identification and quantification in complex biosample analysis, such as human plasma or urine. Only if the stability and effectiveness of deuterated standards are

first demonstrated can its subsequent use in large-scale analysis be considered acceptable for critical decision-making studies (e.g., newborn screening, therapeutic drug monitoring, vitamin D deficiency).

To summarize, there are an array of factors to consider in designing experiments and implementing methods. Important amongst them is the type of labeled standard. As described above, ^{13}C (and ^{15}N) standards provide excellent isotope stability and analytical reliability. This means that the position of label is not impacted by the pre-analytical and analytical processes. Since this type of standard has equivalent physicochemical properties as its unlabeled counterpart, we consider these to be ideal toward the accurate and reproducible quantitation of small or large molecules. Deuterated standards, in contrast, may exhibit isotope instability and an exchange or scrambling effect during storage and the experimental phases. These effects are magnified if the D-label is incorporated at exchangeable positions. Even if deuterium is placed at nonexchangeable positions, development time must be allotted for stability testing (e.g., at storage, in autosampler) and method evaluation (e.g., for mobile phase impact, preferable MRM transitions).[4] That said, if validations have been performed and other options (e.g., ^{13}C standards or surrogates) are absent, then this route could be suitable long-term. Overall, although Cambridge Isotope Laboratories (CIL) offer a multitude of variably labeled standards (encompasses vitamins, steroids, and fatty acids/lipids, amongst others), our recommendation is toward a ^{13}C (and/or ^{15}N) variant, when possible, for accurate/reproducible quantification in clinical MS-based analyses.

References

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2. Triebl, A.; Wenk, M.R. **2018**. Analytical considerations of stable isotope labelling in lipidomics. *Biomolecules, 8(4),* 151.
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4. Honour, J.W. **2011**. Development and validation of a quantitative assay based on tandem mass spectrometry. *Ann Clin Biochem, 48(Pt 2),* 97-111.

Free Amino Acids and Their Derivatives

Amino acids play critical roles in biological functions as building blocks of peptides and proteins, as well as intermediates of various metabolic pathways (e.g., citric acid cycle, urea cycle). These compounds are also reported to influence the pathogenesis and propagation of metabolic disorders/disease, with clinically designed biomarker research aimed to detect disease at the earliest stage.

To aid qualitative and quantitative research, CIL offers an array of unlabeled and stable isotope-labeled free amino acids. These can be used as internal standards or NMR probes in MS- and NMR-based research studies. The amino acids are canonical (e.g., arginine, lysine, phenylalanine) and non-canonical (e.g., beta-alanine, citrulline, ornithine). These are available in their uniform or specifically labeled (with ^{13}C, ^{15}N, D, and/or ^{18}O) forms, in research or MPT grade.

Catalog No.	Description	Unit Size
CLM-8906	*S*-Adenosyl-L-homocysteine (SAH) (adenosine-$^{13}C_{10}$, 98%) CP 95%	0.1 mg
CLM-11193	*S*-Adenosyl-L-methionine (SAM), sulfate salt (ribose-$^{13}C_5$, 98%) CP 95%	Please inquire
DLM-7476	ADMA·HCl·XH_2O (2,3,3,4,4,5,5-D_7, 98%) CP 98% (asymmetric dimethylarginine) may be hydrate	5 mg
CLM-8755	β-Alanine (3-^{13}C, 99%)	Please inquire
CLM-8756	β-Alanine ($^{13}C_3$, 99%)	Please inquire
NLM-1656	β-Alanine (^{15}N, 98%)	0.25 g
CNLM-3440	β-Alanine (3-^{13}C, 99%; ^{15}N, 98%)	Please inquire
CNLM-8457	β-Alanine (1,2-$^{13}C_2$, 99%; ^{15}N, 98%)	Please inquire
CNLM-3946	β-Alanine ($^{13}C_3$, 98%; ^{15}N, 96%)	0.25 g
CLM-1655	D-Alanine (1-^{13}C, 99%)	Please inquire
CLM-2495	D-Alanine (3-^{13}C, 99%)	Please inquire
CLM-10963	D-Alanine ($^{13}C_3$, 99%)	Please inquire
DLM-7326	D-Alanine (D_7, 98%) <5% L	Please inquire
NLM-6762	D-Alanine (^{15}N, 98%)	Please inquire
NLM-3289	D-Alanine, *N*-acetyl (^{15}N, 98%)	Please inquire
CLM-705	DL-Alanine (1-^{13}C, 99%)	1 g
CLM-115	DL-Alanine (2-^{13}C, 99%)	0.25 g, 0.5 g
CLM-707	DL-Alanine (3-^{13}C, 99%)	0.5 g, 1 g
CLM-4514	DL-Alanine ($^{13}C_3$, 98%)	Please inquire
DLM-2760	DL-Alanine (2-D, 98%)	Please inquire
DLM-176	DL-Alanine (3,3,3-D_3, 98%)	1 g
DLM-1276	DL-Alanine (2,3,3,3-D_4, 97%)	1 g
NLM-706	DL-Alanine (^{15}N, 98%)	1 g
CDLM-8650	DL-Alanine (3-^{13}C, 99%; 2-D, 96%)	Please inquire
CLM-116	L-Alanine (1-^{13}C, 99%)	0.5 g, 1 g
CLM-2016	L-Alanine (2-^{13}C, 99%)	0.1 g, 0.25 g, 0.5 g
CLM-117	L-Alanine (3-^{13}C, 99%)	0.5 g, 1 g
CLM-2734	L-Alanine (2,3-$^{13}C_2$, 99%)	0.25 g, 0.5 g
CLM-2184-H	L-Alanine ($^{13}C_3$, 99%)	0.1 g, 0.25 g, 0.5 g
DLM-3101	L-Alanine (2-D, 96%)	Please inquire
DLM-248	L-Alanine (3,3,3-D_3, 99%)	1 g
DLM-250	L-Alanine (2,3,3,3-D_4, 98%)	0.1 g, 1 g
DLM-251	L-Alanine (D_7, 98%)	1 g
NLM-454	L-Alanine (^{15}N, 98%)	0.5 g, 1 g
OLM-7460	L-Alanine ($^{18}O_2$, 90%)	Please inquire
CDLM-8649	L-Alanine (3-^{13}C, 99%; 2-D, 96%)	1 g
CDLM-11504	L-Alanine (3-^{13}C, 99%; 2,3,3-D_3, 96%)	Please inquire
CDLM-3439	L-Alanine (3-^{13}C, 99%; 3,3,3-D_3, 98%)	Please inquire
CNLM-6993	L-Alanine (1-^{13}C, 99%; ^{15}N, 98%)	0.25 g
CNLM-3594	L-Alanine (2-^{13}C, 99%; ^{15}N, 98%)	0.25 g
CNLM-534-H	L-Alanine ($^{13}C_3$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g, 0.5 g
DNLM-7178	L-Alanine (2,3,3,3-D_4, 98%; ^{15}N, 98%)	0.25 g, 0.5 g
CDNLM-6800	L-Alanine ($^{13}C_3$, 97%; D_4, 97%; ^{15}N, 97%)	0.25 g

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
For research use only. Not for use in diagnostic procedures.

Catalog No.	Description	Unit Size
DLM-9799	DL-2-Aminoadipic acid (2,5,5-D_3, 98%)	0.1 g, 0.25 g
CLM-1541	4-Aminobenzoic acid (PABA) (ring-$^{13}C_6$, 99%)	Please inquire
DLM-9802	DL-2-Aminobutyric acid (D_6, 98%)	Please inquire
CLM-8666	γ-Aminobutyric acid (GABA) ($^{13}C_4$, 97%)	0.05 g, 0.1 g
DLM-7760	γ-Aminobutyric acid (GABA) (2,2,3,3,4,4-D_6, 98%)	Please inquire
CLM-535	5-Aminolevulinic acid·HCl (4-^{13}C, 99%)	0.05 g
CLM-1371	5-Aminolevulinic acid·HCl (5-^{13}C, 99%) CP 96%	0.05 g, 0.1 g
CLM-701	Anthranilic acid (ring-$^{13}C_6$, 99%)	0.1 g, 0.25 g
NLM-3294	Anthranilic acid (^{15}N, 98%)	0.5 g
CLM-2070	L-Arginine·HCl (guanido-^{13}C, 99%)	0.5 g
CLM-1268	L-Arginine·HCl (1-^{13}C, 99%)	0.1 g
CLM-2051	L-Arginine·HCl (1,2-$^{13}C_2$, 99%)	0.1 g
CLM-2265-H	L-Arginine·HCl ($^{13}C_6$, 99%)	0.05 g, 0.1 g, 0.25 g, 0.5 g, 1 g
DLM-6038	L-Arginine·HCl (4,4,5,5-D_4, 94%) <5% D	Please inquire
DLM-541	L-Arginine·HCl (D_7, 98%)	0.1 g
NLM-1267	L-Arginine·HCl (α-^{15}N, 98%)	Please inquire
NLM-395	L-Arginine·HCl (guanido-$^{15}N_2$, 98%)	0.5 g, 1 g
NLM-396	L-Arginine·HCl ($^{15}N_4$, 98%)	0.1 g
CNLM-7819	L-Arginine·HCl (1-^{13}C, 99%; α-^{15}N, 98%)	Please inquire
CNLM-11110	L-Arginine·HCl (1,2,3,4,5-$^{13}C_5$, 99%; α,ε-$^{15}N_2$, 98%)	Please inquire
CNLM-539-H	L-Arginine·HCl ($^{13}C_6$, 99%; $^{15}N_4$, 99%)	0.05 g, 0.1 g, 0.25 g, 0.5 g, 1 g
DNLM-7543	L-Arginine·HCl (D_7, 98%; $^{15}N_4$, 98%)	0.25 g
CDNLM-6801	L-Arginine·HCl ($^{13}C_6$, 97%; D_7, 97%; $^{15}N_4$, 97%)	0.25 g
ULM-8347	L-Arginine·HCl (unlabeled)	0.05 g, 0.1 g
CNLM-9007-CA	Argininosuccinic acid (ASA), barium salt·2H_2O (arginine-$^{13}C_6$, 99%; $^{15}N_4$, 99%) CP 90%	0.1 mg, 0.5 mg
ULM-9008-CA	Argininosuccinic acid (ASA), barium salt·3H_2O (unlabeled) CP 90%	0.1 mg
CLM-8699-H	L-Asparagine·H_2O ($^{13}C_4$, 99%)	0.05 g
DLM-6844	L-Asparagine·H_2O (2,3,3-D_3, 94%)	0.1 g
NLM-120	L-Asparagine·H_2O (amide-^{15}N, 98%)	0.25 g, 0.5 g
NLM-3286	L-Asparagine·H_2O ($^{15}N_2$, 98%)	0.25 g, 0.5 g
CNLM-7818	L-Asparagine·H_2O (1,4-$^{13}C_2$, 99%; α-^{15}N, 98%)	0.25 g
CNLM-3819-H	L-Asparagine·H_2O ($^{13}C_4$, 99%; $^{15}N_2$, 99%)	0.1 g, 0.25 g, 0.5 g
DNLM-6932	L-Asparagine·H_2O (2,3,3-D_3, 98%; $^{15}N_2$, 98%)	0.25 g
CDNLM-6802	L-Asparagine·H_2O ($^{13}C_4$, 97%; D_3, 97%; $^{15}N_2$, 97%)	0.25 g
CLM-865	DL-Aspartic acid (3-^{13}C, 99%)	Please inquire
CLM-518	DL-Aspartic acid (4-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
DLM-832	DL-Aspartic acid (2,3,3-D_3, 98%)	1 g
DLM-8599	DL-Aspartic acid, *N*-acetyl (aspartate-2,3,3-D_3, 97%)	Please inquire
CLM-3616	L-Aspartic acid (1-^{13}C, 99%)	Please inquire
CLM-3617	L-Aspartic acid (2-^{13}C, 99%)	Please inquire
CLM-627	L-Aspartic acid (3-^{13}C, 98%)	0.05 g, 0.1 g, 0.25 g
CLM-519	L-Aspartic acid (4-^{13}C, 99%)	Please inquire
CLM-4455	L-Aspartic acid (1,4-$^{13}C_2$, 99%)	0.5 g
CLM-1801-H	L-Aspartic acid ($^{13}C_4$, 99%)	0.1 mg, 0.1 g, 0.25 g, 0.5 g, 1 g
DLM-546	L-Aspartic acid (2,3,3-D_3, 98%)	0.1 g, 0.25 g
NLM-718	L-Aspartic acid (^{15}N, 98%)	0.5 g, 1 g
CNLM-7817	L-Aspartic acid (1,4-$^{13}C_2$, 99%; ^{15}N, 98%)	0.25 g
CNLM-544-H	L-Aspartic acid ($^{13}C_4$, 99%; ^{15}N, 99%)	0.25 g, 0.5 g, 1 g
DNLM-6931	L-Aspartic acid (2,3,3-D_3, 98%; ^{15}N, 98%)	0.25 g, 0.5 g
CDNLM-6803	L-Aspartic acid ($^{13}C_4$, 97%; D_3, 97%; ^{15}N, 97%)	0.25 g

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Free Amino Acids and Their Derivatives *(continued)*

Catalog No.	Description	Unit Size
ULM-8676	L-Aspartic acid (unlabeled)	0.1 mg, 0.1 g
CNLM-9461	L-Azidohomoalanine·HCl (1,2,3,4-$^{13}C_4$; 2,4-$^{15}N_2$, 98%)	0.05 g, 0.1 g
ULM-9460	L-Azidohomoalanine·HCl (unlabeled)	0.05 g, 0.1 g
CLM-9097	3-Bromo-L-tyrosine (ring-$^{13}C_6$, 99%)	0.01 g
CLM-6574	1,4-Butanediamine (putrescine) ($^{13}C_4$, 98%)	0.1 g
DLM-6573	1,4-Butanediamine (putrescine) (1,1,2,2,3,3,4,4-D_8, 98%)	0.1 g
CLM-7103	3-Chloro-L-tyrosine (ring-$^{13}C_6$, 99%) CP 95%	0.01 g
CNLM-10625	3-Chlorotyrosine·HCl ($^{13}C_9$, 98%; ^{15}N, 98%) CP 95%	1 mg
CLM-4899	L-Citrulline (ureido-^{13}C, 99%)	0.1 g
CLM-8653	L-Citrulline (1,2,3,4,5-$^{13}C_5$, 98%)	Please inquire
DLM-3860	L-Citrulline (5,5-D_2, 98%)	Please inquire
DLM-6039	L-Citrulline (4,4,5,5-D_4, 95%)	0.01 g, 5 mg
DLM-10776	L-Citrulline (2,3,3,4,4,5,5-D_7, 98%)	Please inquire
NLM-6850	L-Citrulline (ureido-^{15}N, 98%)	Please inquire
CDLM-7879	L-Citrulline (ureido-^{13}C, 99%; 5,5-D_2, 98%)	Please inquire
CDLM-8808	L-Citrulline (ureido-^{13}C, 99%; 3,3,4-D_3, 98%)	Please inquire
CDLM-7139	L-Citrulline (5-^{13}C, 99%; 4,4,5,5-D_4, 95%)	Please inquire
DLM-3653	Creatinine (*N*-methyl-D_3, 98%)	0.1 mg, 0.1 g
ULM-10966	Creatinine (unlabeled)	0.1 mg
CDLM-4211	Cycloleucine (carboxyl-^{13}C, 99%; 2,2,5,5-D_4, 96%)	0.25 g
DLM-6108	DL-Cystathionine (3,3,4,4-D_4, 98%)	0.01 g, 0.05 g
CLM-3790	DL-Cysteine (1-^{13}C, 99%)	Please inquire
DLM-899	DL-Cysteine (3,3-D_2, 98%)	0.5 g
CLM-404	DL-Cysteine, *S*-benzyl (1-^{13}C, 99%)	0.25 g
CLM-3852	L-Cysteine (1-^{13}C, 99%)	0.5 g
CLM-1868	L-Cysteine (3-^{13}C, 99%)	0.25 g
CLM-4320-H	L-Cysteine ($^{13}C_3$, 99%)	0.1 g
DLM-769	L-Cysteine (3,3-D_2, 98%)	0.1 g
DLM-6901	L-Cysteine (2,3,3-D_3, 98%)	0.1 g
NLM-2295	L-Cysteine (^{15}N, 98%)	0.25 g
CNLM-7815	L-Cysteine (1-^{13}C, 99%; ^{15}N, 98%)	Please inquire
CNLM-3871-H	L-Cysteine ($^{13}C_3$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g
CSLM-11349	L-Cystine ($^{13}C_6$, 99%; $^{34}S_2$, 99%)	Please inquire
DNLM-6902	L-Cysteine (2,3,3-D_3, 98%; ^{15}N, 98%)	0.25 g
CDNLM-6809	L-Cysteine ($^{13}C_3$, 97%; D_3, 97%; ^{15}N, 97%)	0.25 g
CNLM-7579	L-Cysteine, *N*-acetyl (cysteine-$^{13}C_3$, 97%; ^{15}N, 97%) CP 95%	Please inquire
CLM-2182	L-Cysteine, *S*-benzyl (3-^{13}C, 99%)	0.1 g
DLM-2942	L-Cysteine, *S*-methyl (*S*-methyl-D_3, 98%) CP 97%	0.25 g
NLM-3914	L-Cysteine, *S-P*-mebz (^{15}N, 98%)	0.1 g
DLM-1000	DL-Cystine (3,3,3′,3′-D_4, 98%)	1 g
NLM-1668	DL-Cystine ($^{15}N_2$, 95%) CP 97%	Please inquire
CLM-520	L-Cystine (3,3′-$^{13}C_2$, 99%)	0.25 g
DLM-9812	L-Cystine (3,3,3′,3′-D_4, 98%)	0.5 g
NLM-3818	L-Cystine ($^{15}N_2$, 98%)	0.25 g
CNLM-4244-H	L-Cystine ($^{13}C_6$, 99%; $^{15}N_2$, 99%)	Please inquire
CDNLM-8659	L-Cystine ($^{13}C_6$, 98%; D_6, 98%; $^{15}N_2$, 98%) CP 95%	Please inquire
CLM-7401	L-Dihydroxyphenylalanine (DOPA) (1-^{13}C, 99%)	0.1 g
CLM-1007	L-Dihydroxyphenylalanine (DOPA) (ring-$^{13}C_6$, 99%)	0.1 g
CLM-7824	L-Dihydroxyphenylalanine (DOPA) (1-^{13}C, ring-$^{13}C_6$, 99%)	0.05 g
DLM-2084	L-Dihydroxyphenylalanine (DOPA) (ring-D_3, 98%)	0.25 g, 1 g
DLM-8516	*N,N*-Dimethylglycine·HCl (D_6, 99%)	Please inquire
CLM-7254	*O,O′*-Dityrosine (ring-$^{13}C_{12}$, 99%)	0.1 mg

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Catalog No.	Description	Unit Size
CDLM-11657	4-Fluoro-L-phenylalanine·HCl (ring-4-^{13}C, 98%; 3,5-D_2, 98%) CP 95%	50 mg
CNLM-10516	D-Glutamic acid ($^{13}C_5$, 99%; ^{15}N, 98%)	Please inquire
CLM-3632	DL-Glutamic acid (3-^{13}C, 99%)	Please inquire
DLM-335	DL-Glutamic acid (2,4,4-D_3, 98%)	1 g
DLM-357	DL-Glutamic acid (2,3,3,4,4-D_5, 97%)	0.25 g
CLM-3721	DL-Glutamic acid·H_2O (1-^{13}C, 99%)	1 g
CLM-674	L-Glutamic acid (1-^{13}C, 99%)	1 g
CLM-2474	L-Glutamic acid (2-^{13}C, 99%)	Please inquire
CLM-4742	L-Glutamic acid (3-^{13}C, 99%)	Please inquire
CLM-2431	L-Glutamic acid (4-^{13}C, 98%)	Please inquire
CLM-613	L-Glutamic acid (5-^{13}C, 99%)	0.1 g
CLM-2024	L-Glutamic acid (1,2-$^{13}C_2$, 99%)	0.25 g
CLM-3646	L-Glutamic acid (3,4-$^{13}C_2$, 99%)	0.25 g
CLM-1800-H	L-Glutamic acid ($^{13}C_5$, 99%)	0.1 mg, 0.25 g, 0.5 g, 1 g
DLM-3725	L-Glutamic acid (2,4,4-D_3, 97%)	0.5 g
DLM-556	L-Glutamic acid (2,3,3,4,4-D_5, 97%)	0.05 g, 0.1 g
NLM-135	L-Glutamic acid (^{15}N, 98%)	0.5 g, 1 g
CNLM-7812	L-Glutamic acid (1-^{13}C, 99%; ^{15}N, 98%)	0.25 g
CNLM-554-H	L-Glutamic acid ($^{13}C_5$, 99%; ^{15}N, 99%)	0.25 g, 0.5 g, 1 g
DNLM-6996	L-Glutamic acid (2,3,3,4,4-D_5, 98%; ^{15}N, 98%)	0.25 g, 0.5 g
CDNLM-6804	L-Glutamic acid ($^{13}C_5$, 97%; D_5, 97%; ^{15}N, 97%)	0.25 g
ULM-8675	L-Glutamic acid (unlabeled)	0.1 mg
CLM-6664	L-Glutamic acid, *N*-acetyl (glutamate-$^{13}C_5$, 97%)	Please inquire
OLM-8028	L-Glutamic acid·HCl ($^{17}O_4$, ~30%)	Please inquire
CLM-3612	L-Glutamine (1-^{13}C, 99%)	1 g
CLM-3613	L-Glutamine (2-^{13}C, 99%)	Please inquire
CLM-770	L-Glutamine (4-^{13}C, 99%)	Please inquire
CLM-1166	L-Glutamine (5-^{13}C, 99%)	0.25 g
CLM-2001	L-Glutamine (1,2-$^{13}C_2$, 99%)	0.1 g
CLM-3641	L-Glutamine (3,4-$^{13}C_2$, 99%)	Please inquire
CLM-1822-H	L-Glutamine ($^{13}C_5$, 99%)	0.1 mg, 0.01 g, 0.1 g, 0.25 g, 0.5 g, 1 g
DLM-1826	L-Glutamine (2,3,3,4,4-D_5, 97%)	0.1 g
NLM-1016	L-Glutamine (α-^{15}N, 98%)	0.1 g, 1 g
NLM-557	L-Glutamine (amide-^{15}N, 98%)	0.5 g, 1 g
NLM-1328	L-Glutamine ($^{15}N_2$, 98%)	0.25 g
CNLM-7813	L-Glutamine (1-^{13}C, 99%; α-^{15}N, 98%)	Please inquire
CNLM-1275-H	L-Glutamine ($^{13}C_5$, 99%; $^{15}N_2$, 99%)	0.1 g, 0.25 g, 0.5 g
DNLM-6997	L-Glutamine (2,3,3,4,4-D_5, 97%; $^{15}N_2$, 97%)	0.25 g
CDNLM-6805	L-Glutamine ($^{13}C_5$, 97%; D_5, 97%; $^{15}N_2$, 97%)	0.25 g
CLM-422	Glycine (1-^{13}C, 99%)	1 g, 5 g
CLM-136	Glycine (2-^{13}C, 99%)	0.5 g, 1 g, 5 g
CLM-1017	Glycine ($^{13}C_2$, 97%)	0.5 g, 1 g, 5 g
DLM-1674	Glycine (2,2-D_2, 98%)	5 g
DLM-280	Glycine (D_5, 98%)	5 g
DLM-280-80	Glycine (D_5, 80%)	5 g
NLM-202	Glycine (^{15}N, 98%)	1 g, 5 g
CNLM-507	Glycine (1-^{13}C, 99%; ^{15}N, 98%)	1 g
CNLM-508	Glycine (2-^{13}C, 99%; ^{15}N, 98%)	0.5 g, 1 g
CNLM-1673-H	Glycine ($^{13}C_2$, 99%; ^{15}N, 99%)	0.25 g, 0.5 g, 1 g
DNLM-6862	Glycine (2,2-D_2, 98%; ^{15}N, 98%)	0.25 g, 0.5 g

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Free Amino Acids and Their Derivatives *(continued)*

Catalog No.	Description	Unit Size
CDNLM-6799	Glycine ($^{13}C_2$, 97%; 2,2-D_2, 97%; ^{15}N, 97%)	0.25 g
CLM-3777	Glycine, *N*-acetyl (2-^{13}C, 99%)	1 g
CLM-10468	Glycine, *N*-benzoyl (hippuric acid) (ring-$^{13}C_6$, 99%)	0.01 g
DLM-7703	Glycine, *N*-benzoyl (hippuric acid) (benzoyl-D_5, 98%)	0.1 g, 0.25 g
NLM-2377	Glycine, *N*-benzoyl (hippuric acid) (^{15}N, 98%)	0.1 g
DLM-7248	Glycine, *N*-hexanoyl (2,2,-D_2, 98%)	Please inquire
CNLM-844	Glycine, *N*-hexanoyl ($^{13}C_2$, 97%; ^{15}N, 97%) CP 95%	Please inquire
DLM-10483	Glycine, *N*-isovaleryl (isovaleryl-D_9, 98%)	Please inquire
CNLM-9291	Glycine, *N*-isovaleryl (glycine-$^{13}C_2$, 99%; ^{15}N, 99%)	Please inquire
DLM-10822	Glycine, *N*-octanoyl (2,2-D_2, 98%)	Please inquire
DLM-9677	Glycine, *N*-propionyl (2,2-D_2, 98%)	Please inquire
CNLM-9292	Glycine, *N*-propionyl (glycine-$^{13}C_2$, 99%; ^{15}N, 99%)	Please inquire
CNLM-7175	Glycine·HCl, ethyl ester ($^{13}C_2$, 98%; ^{15}N, 98%)	Please inquire
DLM-9998	Guanidinoacetic acid (2,2-D_2, 97%)	Please inquire
CNLM-8300	Guanidinoacetic acid (1,2-$^{13}C_2$, 97%; 3-^{15}N, 97%) CP 97%	0.1 mg
CLM-2636	DL-Histidine (ring-2-^{13}C, 99%)	Please inquire
NLM-10595	DL-Histidine (α-^{15}N, 98%)	Please inquire
NLM-4649	L-Histidine (ring-ε-^{15}N, 98%) (<5% D)	Please inquire
NLM-4457	L-Histidine (ring-π-^{15}N, 98%) (<5% D)	Please inquire
NLM-9585	L-Histidine (ring-$^{15}N_2$, 98%)	Please inquire
CLM-1512	L-Histidine·HCl·H_2O (ring-2-^{13}C, 99%)	0.1 g
CLM-2264	L-Histidine·HCl·H_2O ($^{13}C_6$, 97%) (<5% D)	0.05 g, 0.1 g, 0.25 g
DLM-7855	L-Histidine·HCl·H_2O (ring-2,4-D_2; α,β,β-D_3, 98%)	0.25 g
NLM-2245	L-Histidine·HCl·H_2O (α-^{15}N, 98%)	0.25 g
NLM-846	L-Histidine·HCl·H_2O (ring-π-^{15}N, 98%) (<5% D)	Please inquire
NLM-1513	L-Histidine·HCl·H_2O ($^{15}N_3$, 98%) (<5% D)	0.25 g
CNLM-758	L-Histidine·HCl·H_2O ($^{13}C_6$, 97%; $^{15}N_3$, 97%) (<5% D)	0.05 g, 0.1 g, 0.25 g
DNLM-7366	L-Histidine·HCl·H_2O (D_5, 98%; $^{15}N_3$, 98%)	0.25 g
CDNLM-6806	L-Histidine·HCl·H_2O ($^{13}C_6$, 97%; D_5, 97%; $^{15}N_3$, 97%) CP 95%	0.25 g
CNLM-4645	L-Homoarginine·HCl ($^{13}C_7$, 98%; $^{15}N_4$, 98%)	10 mg
DLM-11621	Homocitrulline (2,6,6-D_3, 98%)	1 mg
DLM-8259	DL-Homocysteine (3,3,4,4-D_4, 98%)	0.1 g
DLM-3619	DL-Homocystine (3,3,3′,3′,4,4,4′,4′-D_8, 98%)	0.1 g, 0.5 g, 1 g
NLM-2466	L-Homoserine (^{15}N, 95%) CP 97%	0.5 g
DLM-9778	*trans*-4-Hydroxy-L-proline (4-Hyp) (2,5,5-D_3, 98%) CP 97%	Please inquire
DLM-10579	*trans*-4-Hydroxy-L-proline (4-Hyp) (3,3,4,5,6,-D_5, 96%) (contains up to 5% *cis)*	Please inquire
CLM-10524	3-Iodo-L-tryrosine ($^{13}C_6$, 99%)	0.01 g
CLM-1026	L-Isoleucine (1-^{13}C, 99%)	0.5 g, 1 g
CLM-2248-H	L-Isoleucine ($^{13}C_6$, 99%)	0.05 g, 0.1 g, 0.25 g
DLM-141	L-Isoleucine (D_{10}, 98%)	0.1 g, 0.25 g
NLM-292	L-Isoleucine (^{15}N, 98%)	0.25 g, 1 g
CNLM-7810	L-Isoleucine (1-^{13}C, 99%; ^{15}N, 98%)	Please inquire
CNLM-561-H	L-Isoleucine ($^{13}C_6$, 99%; ^{15}N, 99%)	0.05 g, 0.1 g, 0.25 g
DNLM-7325	L-Isoleucine (D_{10}, 98%; ^{15}N, 98%)	0.25 g
CDNLM-6807	L-Isoleucine ($^{13}C_6$, 97%; D_{10}, 97%; ^{15}N, 97%)	0.25 g
CLM-8742	L-allo-Isoleucine ($^{13}C_6$, 97%)	Please inquire
DLM-1505	L-allo-Isoleucine (D_{10}, 98%)	0.1 g
CNLM-8670	L-allo-Isoleucine ($^{13}C_6$, 97%; ^{15}N, 97%)	Please inquire
CDNLM-8911	L-allo-Isoleucine ($^{13}C_6$, 97%; D_{10}, 97%; ^{15}N, 97%)	Please inquire
DLM-7374	Kynurenic acid (ring-D_5, 98%)	Please inquire
DLM-7842	L-Kynurenine sulfate (ring-D_4, 3,3-D_2, 97%) CP 95%	5 mg, 10 mg
CLM-9884	L-Kynurenine sulfate·½H_2O ($^{13}C_{10}$, 99%)	0.1 mg
CLM-204	DL-Leucine (1-^{13}C, 99%)	1 g

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Catalog No.	Description	Unit Size
CLM-207	DL-Leucine (2-^{13}C, 99%)	Please inquire
DLM-9423	DL-Leucine (D_{10}, 98%)	0.25 g
NLM-355	DL-Leucine (^{15}N, 98%)	Please inquire
CNLM-8679	DL-Leucine (2-^{13}C, 99%; ^{15}N, 98%)	Please inquire
CLM-468	L-Leucine (1-^{13}C, 99%)	1 g, 5 g
CLM-2014	L-Leucine (2-^{13}C, 99%)	0.5 g, 1 g
CLM-3524	L-Leucine (1,2-$^{13}C_2$, 99%)	0.25 g
CLM-2262-H	L-Leucine ($^{13}C_6$, 99%)	0.05 g, 0.1 g, 0.25 g
DLM-1259	L-Leucine (5,5,5-D_3, 99%)	1 g, 5 g
DLM-4212	L-Leucine (isopropyl-D_7, 98%)	1 g
DLM-567	L-Leucine (D_{10}, 98%)	0.25 g
NLM-142	L-Leucine (^{15}N, 98%)	0.5 g, 1 g
OLM-2041	L-Leucine ($^{18}O_2$, 94%)	0.25 g
CNLM-615	L-Leucine (1-^{13}C, 99%; ^{15}N, 98%)	1 g
CNLM-615-95	L-Leucine (1-^{13}C, 99%; ^{15}N, 93%)	1 g
CNLM-3450	L-Leucine (2-^{13}C, 99%; ^{15}N, 98%)	0.5 g
CNLM-281-H	L-Leucine ($^{13}C_6$, 99%; ^{15}N, 99%)	0.05 g, 0.1 g, 0.25 g
DNLM-4642	L-Leucine (D_{10}, 98%; ^{15}N, 97%)	0.25 g, 0.5 g
CDNLM-6808	L-Leucine ($^{13}C_6$, 97%; D_{10}, 97%; ^{15}N, 97%)	0.25 g
ULM-8203	L-Leucine (unlabeled)	Please inquire
DLM-476	L-Leucine, *N*-acetyl (D_{10}, 98%)	Please inquire
CLM-10684	L-Leucine·HCl (1-^{13}C, 99%)	Please inquire
CLM-749	DL-Lysine·2HCl (1-^{13}C, 99%)	Please inquire
DLM-8941	DL-Lysine·2HCl (4,4,5,5-D_4, 96%)	Please inquire
NLM-1031	DL-Lysine·2HCl (ε-^{15}N, 98%)	0.1 g
CNLM-3452	DL-Lysine·2HCl (1-^{13}C, 99%; ε-^{15}N, 99%)	Please inquire
CNLM-3453	DL-Lysine·2HCl (2-^{13}C, 99%; ε-^{15}N, 99%) CP 95%	0.1 g
NLM-1683	DL-Lysine·HCl·H_2O (α-^{15}N, 99%)	Please inquire
CLM-653	L-Lysine·2HCl (1-^{13}C, 99%)	0.25 g, 0.5 g
CLM-632	L-Lysine·2HCl (6-^{13}C, 99%)	0.25 g
CLM-2247-H	L-Lysine·2HCl ($^{13}C_6$, 99%)	0.05 g, 0.1 g, 0.25 g, 0.5 g, 1 g
DLM-2640	L-Lysine·2HCl (4,4,5,5-D_4, 96%)	0.1 g, 0.25 g, 0.5 g, 1 g
DLM-2641	L-Lysine·2HCl (3,3,4,4,5,5,6,6-D_8, 98%)	0.25 g
DLM-570	L-Lysine·2HCl (D_9, 98%)	0.1 g
NLM-143	L-Lysine·2HCl (α-^{15}N, 98%)	0.25 g, 1 g
NLM-631	L-Lysine·2HCl (ε-^{15}N, 98%)	0.5 g
NLM-1554	L-Lysine·2HCl ($^{15}N_2$, 98%)	0.1 g
CNLM-7821	L-Lysine·2HCl (1-^{13}C, 99%; ε-^{15}N, 98%)	Please inquire
CNLM-3454	L-Lysine·2HCl (6-^{13}C, 99%; ε-^{15}N, 98%)	Please inquire
CNLM-291-H	L-Lysine·2HCl ($^{13}C_6$, 99%; $^{15}N_2$, 99%)	0.05 g, 0.1 g, 0.25 g, 0.5 g, 1 g
DNLM-7545	L-Lysine·2HCl (D_9, 98%; $^{15}N_2$, 98%)	0.25 g
CDNLM-6810	L-Lysine·2HCl ($^{13}C_6$, 97%; D_9, 97%; $^{15}N_2$, 97%)	0.25 g
ULM-8766	L-Lysine·2HCl (unlabeled)	0.1 mg, 0.05 g, 0.1 g
DLM-4731	L-Lysine, *N*-ε-carboxymethyl (4,4,5,5-D_4, 96%)	Please inquire
CLM-7356	D-Methionine (1-^{13}C, 99%) CP 96%	Please inquire
CLM-6191	DL-Methionine (1-^{13}C, 99%)	Please inquire
DLM-10774	DL-Methionine (*S*-methyl-D_3, 98%)	Please inquire
DLM-2933	DL-Methionine (3,3,4,4-D_4, 98%)	Please inquire
CDNLM-8026	DL-Methionine ($^{13}C_5$, 97%; D_8, 97%; ^{15}N, 97%)	Please inquire
CLM-206	L-Methionine (methyl-^{13}C, 99%)	1 g, 5 g, 10 g
CLM-3267	L-Methionine (1-^{13}C, 99%)	0.25 g, 1 g

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Free Amino Acids and Their Derivatives *(continued)*

Catalog No.	Description	Unit Size
CLM-893-H	L-Methionine ($^{13}C_5$, 99%)	0.05 g, 0.1 g, 0.25 g
DLM-431	L-Methionine (methyl-D_3, 98%)	1 g, 5 g
DLM-6797	L-Methionine (2,3,3,4,4-D_5; methyl-D_3, 98%)	0.1 g
NLM-752	L-Methionine (^{15}N, 96%)	0.5 g, 1 g
CDLM-9289	L-Methionine (methyl-^{13}C, 99%; methyl-D_3, 98%)	0.25 g, 1 g
CDLM-760	L-Methionine (1-^{13}C, 99%; methyl-D_3, 98%)	Please inquire
CDLM-8885	L-Methionine (methyl-$^{13}CH_3$, 99%; 2,3,3,4,4-D_5, 98%)	0.5 g, 1 g
CNLM-7807	L-Methionine (1-^{13}C, 99%; ^{15}N, 98%)	0.25 g
CNLM-9774	L-Methionine (1,2,3,4-$^{13}C_4$, 99%; ^{15}N, 98%)	Please inquire
CNLM-759-H	L-Methionine ($^{13}C_5$, 99%; ^{15}N, 99%)	0.05 g, 0.1 g, 0.25 g
DNLM-7179	L-Methionine (D_8, 98%; ^{15}N, 98%)	0.25 g
CDNLM-6798	L-Methionine ($^{13}C_5$, 97%; D_8, 97%; ^{15}N, 97%)	Please inquire
CLM-8002	L-Methionine sulfone (1-^{13}C, 99%)	Please inquire
CNLM-10424	β-*N*-Methylamino-L-alanine (BMAA) ($^{13}C_3$, 99%; $^{15}N_2$, 98%) Patent No.: US 11,370,812 B2	0.01 g, 1.2 mL
ULM-10493	β-*N*-Methylamino-L-alanine (BMAA)·HCl (unlabeled) CP 97%	Please inquire
DLM-10673	3-Methylcrotonylglycine (glycine-2,2-D_2, 98%	Please inquire
CNLM-8111	3-Methylcrotonylglycine (glycine-$^{13}C_2$, 98%; ^{15}N, 98%)	Please inquire
DLM-11341	L-3-*O*-Methyl-dopa·H_2O (3-OMD) (methoxy-D_3, 98%)	Please inquire
DLM-8691	π-Methyl-L-histidine (methyl-D_3, 98%)	0.05 g
DLM-2949	τ-Methyl-L-histidine (methyl-D_3, 98%)	0.25 g
CLM-11828	3-(3-Methyl-1H-pyrazol-5-yl)propanoic acid (MPP) ($^{13}C_3$, 98%) CP 95%	1 mg
CLM-7944	3-(3-Methyl-1H-pyrazol-5-yl)propanoic acid (MPP) (methyl-^{13}C, pyrazolyl-$^{13}C_3$, 3-^{13}C, 99%)	0.1 mg
CLM-7104	3-Nitro-L-tyrosine (ring-$^{13}C_6$, 99%) CP 94%	0.01 g
CLM-9607	DL-Ornithine·HCl (1-^{13}C, 99%)	Please inquire
CLM-1036	L-Ornithine·HCl (1,2-$^{13}C_2$, 99%)	0.1 g
CLM-4724-H	L-Ornithine·HCl ($^{13}C_5$, 99%)	0.1 g
DLM-4261	L-Ornithine·HCl (5,5-D_2, 98%)	0.25 g
DLM-6046	L-Ornithine·HCl (4,4,5,5-D_4, 95%)	Please inquire
DLM-2969	L-Ornithine·HCl (3,3,4,4,5,5-D_6, 98%)	0.1 g, 0.25 g
DLM-6669	L-Ornithine·HCl (D_7, 98%)	0.25 g
NLM-2212	L-Ornithine·HCl (α-^{15}N, 98%)	Please inquire
NLM-2174	L-Ornithine·HCl (5-^{15}N, 98%)	Please inquire
NLM-3610	L-Ornithine·HCl ($^{15}N_2$, 98%)	0.25 g
CDLM-3873	L-Ornithine·HCl (5-^{13}C, 99%; 4,4,5,5-D_4, 95%)	Please inquire
CNLM-7578-H	L-Ornithine·HCl ($^{13}C_5$, 99%; $^{15}N_2$, 99%)	Please inquire
DNLM-7369	L-Ornithine·HCl (D_7, 98%; $^{15}N_2$, 98%)	Please inquire
DLM-4526	D-Phenylalanine (ring-D_5, 97%)	Please inquire
CLM-761	DL-Phenylalanine (1-^{13}C, 99%)	Please inquire
CLM-7486	DL-Phenylalanine (ring-$^{13}C_6$, 99%)	Please inquire
DLM-2983	DL-Phenylalanine (2-D, 98%)	1 g
DLM-2986	DL-Phenylalanine (ring-D_5, 98%)	1 g
NLM-3434	DL-Phenylalanine (^{15}N, 98%)	Please inquire
CLM-762	L-Phenylalanine (1-^{13}C, 99%)	1 g
CLM-1631	L-Phenylalanine (2-^{13}C, 99%) CP 97%	0.05 g, 0.25 g
CLM-1053	L-Phenylalanine (3-^{13}C, 99%)	0.1 g, 0.25 g
CLM-1055	L-Phenylalanine (ring-$^{13}C_6$, 99%)	0.25 g, 1 g
CLM-2250-H	L-Phenylalanine ($^{13}C_9$, 99%)	0.25 g, 0.5 g, 1 g
DLM-2984	L-Phenylalanine (2-D, 95%)	0.5 g
DLM-2985	L-Phenylalanine (3,3-D_2, 98%)	0.1 g, 0.5 g, 1 g
DLM-1258	L-Phenylalanine (ring-D_5, 98%)	1 g, 5 g
DLM-372	L-Phenylalanine (D_8, 98%)	1 g
NLM-108	L-Phenylalanine (^{15}N, 98%)	0.5 g, 1 g

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Catalog No.	Description	Unit Size
CNLM-7611	L-Phenylalanine (2,3-$^{13}C_2$, 99%; ^{15}N, 98%)	Please inquire
CNLM-575-H	L-Phenylalanine ($^{13}C_9$, 99%; ^{15}N, 99%)	0.1 mg, 0.1 g, 0.25 g, 0.5 g, 1 g
DNLM-7180	L-Phenylalanine (D_8, 98%; ^{15}N, 98%)	0.25 g, 0.5 g
CDNLM-11149	L-Phenylalanine (4′-^{13}C, 99%; 2,3,3,2′,3′,5′,6′-D_7, 98%; ^{15}N, 98%)	0.1 g
CDNLM-12287	L-Phenylalanine (3′,5′-$^{13}C_2$, 99%; 2,3,3,2′,4′,6′-D_6, 98%; ^{15}N, 98%)	Please inquire
CDNLM-6811	L-Phenylalanine ($^{13}C_9$, 97%; D_8, 97%; ^{15}N, 97%)	0.25 g
ULM-8205	L-Phenylalanine (unlabeled)	0.1 mg
DLM-9715	3-Phenylpropionylglycine (2,2-D_2, 98%)	Please inquire
CNLM-9983	*O*-Phospho-L-serine ($^{13}C_3$, 99%; ^{15}N, 98%) CP 95%	Please inquire
CNLM-9169	Pipecolic acid (peperidine 2-carboxylic acid) ($^{13}C_6$, 98%; ^{15}N, 98%)	Please inquire
CLM-2479	DL-Proline (1-^{13}C, 99%)	Please inquire
DLM-2657	DL-Proline (2,3,3,4,4,5,5-D_7, 97%)	0.25 g
CLM-510	L-Proline (1-^{13}C, 99%)	0.25 g
CLM-2260-H	L-Proline ($^{13}C_5$, 99%)	0.1 g, 0.25 g, 0.5 g
DLM-10775	L-Proline (2,5,5-D_3, 98%)	Please inquire
DLM-487	L-Proline (D_7, 97%)	0.1 g, 0.25 g
NLM-835	L-Proline (^{15}N, 98%)	0.25 g, 0.5 g
CNLM-7822	L-Proline (1-^{13}C, 99%; ^{15}N, 98%)	Please inquire
CNLM-436-H	L-Proline ($^{13}C_5$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g, 0.5 g
DNLM-7562	L-Proline (D_7, 98%; ^{15}N, 98%)	0.25 g
CDNLM-6812	L-Proline ($^{13}C_5$, 97%; D_7, 97%; ^{15}N, 97%)	0.25 g
ULM-8333	L-Proline (unlabeled)	0.05 g, 0.1 g
DLM-11082	DL-Pyroglutamic acid (3,3,4,4,5-D_5, 98%)	Please inquire
DLM-6874	Sarcosine·HCl (*N*-methylglycine·HCl) (methyl-D_3, 98%)	0.1 g, 0.25 g
CNLM-9699	Sarcosine·HCl (*N*-methylglycine·HCl) ($^{13}C_3$, 99%; ^{15}N, 98%)	Please inquire
CLM-1075	DL-Serine (1-^{13}C, 99%)	Please inquire
CLM-496	DL-Serine (2-^{13}C, 99%)	Please inquire
CLM-497	DL-Serine (3-^{13}C, 99%)	Please inquire
DLM-1073	DL-Serine (2,3,3-D_3, 98%)	1 g
NLM-1531	DL-Serine (^{15}N, 98%)	Please inquire
CNLM-4207	DL-Serine ($^{13}C_3$, 98%; ^{15}N, 98%)	Please inquire
CLM-1573	L-Serine (1-^{13}C, 99%)	0.25 g
CLM-2013	L-Serine (2-^{13}C, 99%)	0.1 g
CLM-1572	L-Serine (3-^{13}C, 99%)	0.1 g, 0.25 g
CLM-1574-H	L-Serine ($^{13}C_3$, 99%)	0.1 g, 0.25 g, 0.5 g
DLM-161	L-Serine (3,3-D_2, 98%)	0.1 g
DLM-582	L-Serine (2,3,3-D_3, 98%)	0.1 g, 0.5 g
NLM-2036	L-Serine (^{15}N, 98%)	0.5 g, 1 g
OLM-9960	L-Serine (carboxyl-$^{18}O_2$, 95%)	Please inquire
CDLM-12299	L-Serine (2-^{13}C, 99%; 2,3,3-D_3, 97%) <3% D	Please inquire
CNLM-7814	L-Serine (1-^{13}C, 99%; ^{15}N, 98%)	0.25 g
CNLM-474-H	L-Serine ($^{13}C_3$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g, 0.5 g
DNLM-6863	L-Serine (2,3,3-D_3, 98%; ^{15}N, 98%)	0.25 g
CDNLM-6813	L-Serine ($^{13}C_3$, 97%; D_3, 97%; ^{15}N, 97%)	0.25 g
DLM-10873	L-Serine, *N*-acetyl (2,3,3,-D_3, 98%)	Please inquire
CLM-3949	Sodium glutamate·XH_2O ($^{13}C_5$, 97%) (may be hydrate)	0.25 g
DLM-9713	*N*-Suberylglycine (2,2-D_2, 98%) CP 97%	Please inquire
CNLM-8183	Suberylglycine (glycine-$^{13}C_2$, 98%; ^{15}N, 98%)	Please inquire
DLM-8738	*S*-Sulfo-DL-cysteine (2,3,3-D_3, 99%)	Please inquire
DLM-8057	Taurine (D_4, 98%) CP 95%	0.1 g, 0.25 g
CLM-6622	Taurine (1,2-$^{13}C_2$, 98%)	0.25 g, 0.5 g

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Free Amino Acids and Their Derivatives *(continued)*

Catalog No.	Description	Unit Size
DLM-8057	Taurine (D_4, 98%) CP 95%	0.1 g, 0.25 g
NLM-4472	Taurine (^{15}N, 98%)	Please inquire
CNLM-10253	Taurine ($^{13}C_2$, 99%; ^{15}N, 98%)	0.01 g
CLM-447	L-Threonine (1-^{13}C, 99%)	0.5 g
CLM-2261	L-Threonine ($^{13}C_4$, 97%)	0.1 g, 0.25 g, 0.5 g
DLM-1693	L-Threonine (D_5, 98%)	0.1 g
NLM-742	L-Threonine (^{15}N, 98%)	0.25 g, 0.5 g
CDLM-9307	L-Threonine (4-^{13}C, 97%; 2,3-D_2, 96%)	0.1 g, 0.5 g
CNLM-587	L-Threonine ($^{13}C_4$, 97%; ^{15}N, 97%)	0.1 g, 0.25 g, 0.5 g
DNLM-7367	L-Threonine (D_5, 97%; ^{15}N, 98%)	0.25 g, 0.5 g
CDNLM-6814	L-Threonine ($^{13}C_4$, 97%; D_5, 97%; ^{15}N, 97%)	0.25 g
ULM-8800	L-Threonine (unlabeled)	Please inquire
CLM-6725	L-Thyroxine (T4) (tyrosine-ring-$^{13}C_6$, 99%) CP 90%	0.1 mg
CLM-8931	L-Thyroxine (T4) (ring-$^{13}C_{12}$, 99%) CP 97%	0.1 mg
ULM-8184	L-Thyroxine (T4) (unlabeled)	0.2 mg
CNLM-8110	Tiglylglycine (glycine-$^{13}C_2$, 98%; ^{15}N, 98%)	Please inquire
DLM-10522	D-Tryptophan (indole-D_5, 98%)	Please inquire
CLM-778	L-Tryptophan (1-^{13}C, 99%)	0.25 g
CLM-1543	L-Tryptophan (indole-2-^{13}C, 98%)	0.25 g
CLM-716	L-Tryptophan (indole-3-^{13}C, 95%)	0.25 g
CLM-717	L-Tryptophan (indole-4-^{13}C, 99%) CP 95%	Please inquire
CLM-4290-H	L-Tryptophan ($^{13}C_{11}$, 99%)	0.1 g
DLM-1092	L-Tryptophan (indole-D_5, 98%)	0.5 g
DLM-6903	L-Tryptophan (D_8, 97%)	0.25 g
NLM-1695	L-Tryptophan (α-^{15}N, 95%)	0.1 g
NLM-1208	L-Tryptophan (indole-^{15}N, 98%)	0.25 g, 0.5 g
NLM-800	L-Tryptophan ($^{15}N_2$, 98%)	0.25 g, 0.5 g
CNLM-2475-H	L-Tryptophan ($^{13}C_{11}$, 99%; $^{15}N_2$, 99%)	0.1 g
DNLM-6904	L-Tryptophan (D_8, 98%; $^{15}N_2$, 98%)	0.25 g
CDNLM-6816	L-Tryptophan ($^{13}C_{11}$, 97%; D_8, 97%; $^{15}N_2$, 97%)	0.25 g
CLM-448	DL-Tyrosine (1-^{13}C, 99%)	Please inquire
DLM-137	DL-Tyrosine (3,3-D_2, 98%)	Please inquire
DLM-2914	DL-Tyrosine (ring-3,5-D_2, 98%)	Please inquire
CLM-776	L-Tyrosine (1-^{13}C, 99%)	1 g
CLM-437	L-Tyrosine (2-^{13}C, 99%)	Please inquire
CLM-3378	L-Tyrosine (3-^{13}C, 99%)	0.1 g, 0.25 g
CLM-622	L-Tyrosine (phenol-4-^{13}C, 95%)	0.25 g
CLM-623	L-Tyrosine (phenol-3,5-$^{13}C_2$, 95%)	0.25 g
CLM-1542	L-Tyrosine (ring-$^{13}C_6$, 99%)	0.25 g
CLM-2263-H	L-Tyrosine ($^{13}C_9$, 99%)	0.1 g, 0.25 g, 0.5 g
DLM-2317	L-Tyrosine (3,3-D_2, 98%)	0.5 g, 1 g
DLM-449	L-Tyrosine (ring-3,5-D_2, 98%)	1 g, 5 g
DLM-2917	L-Tyrosine (ring-2,6-D_2, 2-D, 98%)	Please inquire
DLM-451	L-Tyrosine (ring-D_4, 98%)	0.5 g, 1 g
DLM-589	L-Tyrosine (D_7, 98%)	0.05 g, 0.1 g
NLM-590	L-Tyrosine (^{15}N, 98%)	0.5 g
OLM-621	L-Tyrosine (phenol-^{17}O, 35-40%)	0.25 g, 0.5 g
OLM-8696	L-Tyrosine (phenol-^{18}O, 85%)	Please inquire
CDLM-2369	L-Tyrosine (ring-$^{13}C_6$, 99%; 3,3-D_2, 30%)	0.1 g
CNLM-7809	L-Tyrosine (1-^{13}C, 99%; ^{15}N, 98%)	0.25 g
CNLM-7610	L-Tyrosine (2,3-$^{13}C_2$, 99%; ^{15}N, 98%)	Please inquire
CNLM-439-H	L-Tyrosine ($^{13}C_9$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g, 0.5 g

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Catalog No.	Description	Unit Size
DNLM-7373	L-Tyrosine (D_7, 97%; ^{15}N, 98%)	0.25 g
CDNLM-11148	L-Tyrosine (3',5'-$^{13}C_2$, 99%; 2,3,3,2',6'-D_5, 98%; ^{15}N, 98%)	0.1 g
CDNLM-6815	L-Tyrosine ($^{13}C_9$, 97%; D_7, 97%; ^{15}N, 97%)	0.25 g
DLM-10940	L-Tyrosine, *N*-acetyl (acetyl-D_3, 98%)	Please inquire
CLM-10543	*cis*-Urocanic acid (1,2,3-$^{13}C_3$, 99%)	1 mg, 2 mg, 5 mg
CLM-166	DL-Valine (1-^{13}C, 99%)	Please inquire
CLM-3277	DL-Valine (2-^{13}C, 99%)	Please inquire
DLM-311	DL-Valine (D_8, 98%)	1 g
NLM-236	DL-Valine (^{15}N, 98%)	Please inquire
CLM-470	L-Valine (1-^{13}C, 99%)	1 g
CLM-3050	L-Valine (2-^{13}C, 99%)	0.25 g
CLM-9217	L-Valine (dimethyl-$^{13}C_2$, 99%)	0.25 g, 1 g
CLM-2249-H	L-Valine ($^{13}C_5$, 99%)	0.1 mg, 0.25 g, 0.5 g, 1 g
DLM-7732	L-Valine (3-D, 98%)	1 g
DLM-4364	L-Valine (2,3-D_2, 98%)	0.1 g, 0.25 g
DLM-488	L-Valine (D_8, 98%)	0.25 g, 0.5 g
NLM-316	L-Valine (^{15}N, 98%)	0.5 g, 1 g
CNLM-3466	L-Valine (1-^{13}C, 99%; ^{15}N, 98%)	0.25 g
CNLM-8678	L-Valine (2-^{13}C, 99%; ^{15}N, 98%)	Please inquire
CNLM-442-H	L-Valine ($^{13}C_5$, 99%; ^{15}N, 99%)	0.25 g, 0.5 g, 1 g
DNLM-4643	L-Valine (D_8, 96%; ^{15}N, 96%)	0.25 g, 0.5 g
CDNLM-4281	L-Valine ($^{13}C_5$, 95%; 2,3-D_2, 97%; ^{15}N, 96%)	0.1 g, 0.25 g
CDNLM-6817	L-Valine ($^{13}C_5$, 97%; D_8, 97%; ^{15}N, 97%)	0.25 g
ULM-8202	L-Valine (unlabeled)	0.1 mg
NLM-7888	L-Valine, *N*-acetyl (^{15}N, 98%)	0.5 g

Amino Acid Bundling Sets

Catalog No.	Description		Unit Size
SILAC-2PLEX	2-Plex SILAC Amino Acid Standards		1 vial each
	Contents:		
	CNLM-539-H	L-Arginine·HCl ($^{13}C_6$, 99%; $^{15}N_4$, 99%)	0.1 g
	ULM-8347	L-Arginine·HCl (unlabeled)	0.1 g
	CNLM-291-H	L-Lysine·2HCl ($^{13}C_6$, 99%; $^{15}N_2$, 99%)	0.1 g
	ULM-8766	L-Lysine·2HCl (unlabeled)	0.1 g

Catalog No.	Description		Unit Size
SILAC-3PLEX	3-Plex SILAC Amino Acid Standards		1 vial each
	Contents:		
	CLM-2265-H	L-Arginine·HCl ($^{13}C_6$, 99%)	0.1 g
	CNLM-539-H	L-Arginine·HCl ($^{13}C_6$, 99%; $^{15}N_4$, 99%)	0.1 g
	ULM-8437	L-Arginine·HCl (unlabeled)	0.1 g
	DLM-2640	L-Lysine·2HCl (4,4,5,5-D_4, 96%)	0.1 g
	CNLM-291-H	L-Lysine·2HCl ($^{13}C_6$, 99%; $^{15}N_2$, 99%)	0.1 g
	ULM-8766	L-Lysine·2HCl (unlabeled)	0.1 g

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Protected Amino Acids

Stable isotope-labeled peptides have demonstrated to be an effective means to quantify endogenous proteins in basic and translational bottom-up proteomics. In these experiments, the labeled peptides are employed as internal standards, where they serve as molecular surrogates of the target proteins enabling relative or absolute protein quantitation.

From a development standpoint, the peptides are produced in a step-wise manner by solid phase peptide synthesis using amino acid building blocks with *N*-terminal, 9-fluorenylmethoxycarbonyl (Fmoc) or *tert*-butoxycarbonyl (*t*-Boc) protecting groups. To help facilitate the synthesis of isotopically labeled peptides, CIL offers an assortment of uniformly or partially labeled Fmoc and *t*-Boc amino acids.

Catalog No.	Description	Unit Size
CLM-818	L-Alanine-*N*-Fmoc (1-^{13}C, 99%)	1 g
CLM-3638	L-Alanine-*N*-Fmoc (2-^{13}C, 99%)	0.25 g
CLM-1142	L-Alanine-*N*-Fmoc (3-^{13}C, 99%)	1 g
CLM-7785	L-Alanine-*N*-Fmoc ($^{13}C_3$, 97%)	0.25 g
DLM-7316	L-Alanine-*N*-Fmoc (3,3,3-D_3, 98%)	1 g
DLM-8168	L-Alanine-*N*-Fmoc (2,3,3,3-D_4, 98%)	0.5 g
NLM-614	L-Alanine-*N*-Fmoc (^{15}N, 98%)	1 g
CNLM-4355-H	L-Alanine-*N*-Fmoc ($^{13}C_3$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g, 1 g
CDNLM-7852	L-Alanine-*N*-Fmoc ($^{13}C_3$, 97%; D_4, 97%; ^{15}N, 97%)	Please inquire
CLM-2150	L-Alanine-*N*-*t*-Boc (1-^{13}C, 99%)	1 g
CLM-2011	L-Alanine-*N*-*t*-Boc (2-^{13}C, 98%)	0.25 g
CLM-2151	L-Alanine-*N*-*t*-Boc (3-^{13}C, 99%)	0.5 g, 1 g
CLM-3589	L-Alanine-*N*-*t*-Boc ($^{13}C_3$, 97%)	0.25 g
DLM-649	L-Alanine-*N*-*t*-Boc (2-D, 98%)	Please inquire
DLM-2793	L-Alanine-*N*-*t*-Boc (3,3,3-D_3, 99%)	1 g
NLM-1903	L-Alanine-*N*-*t*-Boc (^{15}N, 98%)	0.25 g, 0.5 g, 1 g
CNLM-6014	L-Alanine-*N*-*t*-Boc (2-^{13}C, 99%; ^{15}N, 96%)	Please inquire
CNLM-2394	L-Alanine-*N*-*t*-Boc ($^{13}C_3$, 97%; ^{15}N, 97%)	0.05 g, 0.1 g
CLM-8475-H	L-Arginine-*N*-Fmoc, Pbf-OH ($^{13}C_6$, 99%) contains solvent	1 g
NLM-8841	L-Arginine-*N*-Fmoc, Pbf-OH ($^{15}N_4$, 98%) contains solvent	0.1 g/compound
CNLM-8474-H	L-Arginine-*N*-Fmoc, Pbf-OH ($^{13}C_6$, 99%; $^{15}N_4$, 99%) contains solvent	0.1 g, 0.25 g, 0.5 g, 1 g
CNLM-4354	L-Asparagine-*N*-Fmoc ($^{13}C_4$, 97%; $^{15}N_2$, 97%)	Please inquire
CNLM-6193-H	L-Asparagine-*N*-Fmoc, *N*-β-trityl ($^{13}C_4$, 99%; $^{15}N_2$, 99%)	0.1 g
NLM-4204	L-Asparagine-*N*-Fmoc, *N*-β-trityl ($^{15}N_2$, 98%)	0.1 g
CLM-4249	L-Aspartic acid-*N*-α-Cbz ($^{13}C_4$, 97%)	0.1 g
CNLM-4788	L-Aspartic acid-*N*-Fmoc ($^{13}C_4$, 97%; ^{15}N, 97%)	0.05 g
NLM-647	L-Aspartic acid-*N*-Fmoc, β-*O*-*tert*-butyl ester (^{15}N, 98%)	0.1 g, 0.5 g, 1 g
CNLM-4752-H	L-Aspartic acid-*N*-Fmoc, β-*O*-*tert*-butyl ester ($^{13}C_4$,99%; ^{15}N, 99%)	0.1 g
NLM-3493	L-Aspartic acid-*N*-*t*-Boc (^{15}N, 98%)	1 g
NLM-1908	L-Aspartic acid-*N*-*t*-Boc, β-Bz ester (^{15}N, 98%)	0.25 g
CNLM-2392	L-Aspartic acid-*N*-*t*-Boc, β-Bz ester ($^{13}C_4$, 97%; ^{15}N, 97%)	0.05 g
CLM-2403	L-Cysteine-*N*-Fmoc, *S*-benzyl (3-^{13}C, 98%)	Please inquire
DLM-4721	L-Cysteine-*N*-Fmoc, *S*-trityl (3,3-D_2, 98%)	0.1 g, 0.25 g, 0.5 g
CNLM-4722-H	L-Cysteine-*N*-Fmoc, *S*-trityl ($^{13}C_3$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g
CLM-1901	L-Cysteine-*N*-*t*-Boc, *S*-benzyl (3-^{13}C, 99%)	0.25 g
NLM-3874	L-Cysteine-*N*-*t*-Boc, *S*-*P*-mebz (^{15}N, 98%)	0.25 g
NLM-8960	L-Glutamic acid-*N*-Fmoc, γ-*tert*-butyl ester (^{15}N, 98%)	0.1 g
CNLM-4753-H	L-Glutamic acid-*N*-Fmoc, γ-*tert*-butyl ester ($^{13}C_5$, 99%; ^{15}N, 99%) CP 96%	0.1 g
CLM-2008	L-Glutamic acid-*N*-*t*-Boc, γ-benzyl ester (1,2-$^{13}C_2$, 99%)	0.1 g
NLM-1907	L-Glutamic acid-*N*-*t*-Boc, γ-benzyl ester (^{15}N, 98%)	Please inquire
CNLM-4356-H	L-Glutamine-*N*-Fmoc ($^{13}C_5$, 99%; $^{15}N_2$, 99%)	Please inquire
CNLM-7252-H	L-Glutamine-*N*-Fmoc, *N*-γ-trityl ($^{13}C_5$, 99%; $^{15}N_2$, 99%)	Please inquire
CLM-1902	L-Glutamine-*N*-*t*-Boc (1,2-$^{13}C_2$, 99%)	0.1 g
NLM-3419	L-Glutamine-*N*-*t*-Boc (α-^{15}N, 98%)	0.5 g

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For research use only. Not for use in diagnostic procedures.

Catalog No.	Description	Unit Size
CLM-3639	Glycine-*N*-Fmoc (1-^{13}C, 99%)	1 g
CLM-2387	Glycine-*N*-Fmoc (2-^{13}C, 99%)	1 g
CLM-7547	Glycine-*N*-Fmoc ($^{13}C_2$, 97%)	1 g
DLM-7339	Glycine-*N*-Fmoc (2,2-D_2, 98%)	1 g
NLM-694	Glycine-*N*-Fmoc (^{15}N, 98%)	1 g
CNLM-7697	Glycine-*N*-Fmoc (1-^{13}C, 99%; ^{15}N, 98%)	0.25 g
CNLM-7698	Glycine-*N*-Fmoc (2-^{13}C, 99%; ^{15}N, 98%)	0.1 g
CNLM-4357-H	Glycine-*N*-Fmoc ($^{13}C_2$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g
CDNLM-7853	Glycine-*N*-Fmoc ($^{13}C_2$, 97%; 2,2-D_2, 97%; ^{15}N, 97%)	Please inquire
CLM-2152	Glycine-*N*-*t*-Boc (1-^{13}C, 99%)	1 g
CLM-1900	Glycine-*N*-*t*-Boc (2-^{13}C, 99%)	1 g
DLM-2153	Glycine-*N*-*t*-Boc (2,2-D_2, 98%)	1 g
NLM-2109	Glycine-*N*-*t*-Boc (^{15}N, 98%)	1 g
CNLM-9686	Glycine-*N*-*t*-Boc (2-^{13}C, 99%; ^{15}N, 98%)	Please inquire
CNLM-2412	Glycine-*N*-*t*-Boc ($^{13}C_2$, 97%; ^{15}N, 97%)	0.1 g
NLM-8010	L-Histidine-*N*-Fmoc, *N*-Im-trityl ($^{15}N_3$, 98%)	0.1 g
CLM-8043	L-Isoleucine-*N*-Fmoc (1-^{13}C, 99%)	0.25 g
CLM-7794	L-Isoleucine-*N*-Fmoc ($^{13}C_6$, 97%)	Please inquire
NLM-391	L-Isoleucine-*N*-Fmoc (^{15}N, 98%)	0.25 g
CNLM-4346-H	L-Isoleucine-*N*-Fmoc ($^{13}C_6$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g
NLM-2167	L-Isoleucine-*N*-*t*-Boc (^{15}N, 98%)	0.25 g
CLM-10959	D-Leucine-*N*-Fmoc ($^{13}C_6$, 97%)	Please inquire
CLM-3691	L-Leucine-*N*-Fmoc (1-^{13}C, 99%)	1 g
CLM-7546	L-Leucine-*N*-Fmoc (1,2-$^{13}C_2$, 99%)	0.1 g
CLM-3683	L-Leucine-*N*-Fmoc ($^{13}C_6$, 97%)	0.1 g
DLM-7202	L-Leucine-*N*-Fmoc (5,5,5-D_3, 98%)	1 g
DLM-7575	L-Leucine-*N*-Fmoc (D_{10}, 98%)	0.25 g
NLM-2397	L-Leucine-*N*-Fmoc (^{15}N, 98%)	1 g
CNLM-4345-H	L-Leucine-*N*-Fmoc ($^{13}C_6$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g, 1 g
CDNLM-7854	L-Leucine-*N*-Fmoc ($^{13}C_6$, 97%; D_{10}, 97%; ^{15}N, 97%)	Please inquire
CLM-2155	L-Leucine-*N*-*t*-Boc·H_2O (1-^{13}C, 99%)	1 g
CLM-2010	L-Leucine-*N*-*t*-Boc·H_2O (2-^{13}C, 99%)	0.25 g
DLM-2736	L-Leucine-*N*-*t*-Boc·H_2O (5,5,5-D_3, 98%)	1 g
DLM-3650	L-Leucine-*N*-*t*-Boc·H_2O (D_{10}, 98%)	0.5 g
NLM-1904	L-Leucine-*N*-*t*-Boc·H_2O (^{15}N, 98%)	1 g
CNLM-2396	L-Leucine-*N*-*t*-Boc·H_2O ($^{13}C_6$, 97%; ^{15}N, 97%)	0.05 g
CNLM-11083	L-Lysine-α-*N*-Fmoc, ε-*N*-Fmoc ($^{13}C_6$, 99%; $^{15}N_2$, 99%)	Please inquire
CLM-6194	L-Lysine-α-*N*-Fmoc, ε-*N*-*t*-Boc (1-^{13}C, 99%)	0.1 g
CLM-7865-H	L-Lysine-α-*N*-Fmoc, ε-*N*-*t*-Boc ($^{13}C_6$, 99%)	Please inquire
NLM-4631	L-Lysine-α-*N*-Fmoc, ε-*N*-*t*-Boc ($^{15}N_2$, 96%)	0.1 g
CNLM-4754-H	L-Lysine-α-*N*-Fmoc, ε-*N*-*t*-Boc ($^{13}C_6$, 99%; $^{15}N_2$, 99%)	0.1 g, 0.25 g, 0.5 g, 1 g
CLM-1141	L-Methionine-*N*-Fmoc (methyl-^{13}C, 99%)	Please inquire
CLM-8166	L-Methionine-*N*-Fmoc (1-^{13}C, 99%)	Please inquire
NLM-4632	L-Methionine-*N*-Fmoc (^{15}N, 98%)	Please inquire
CNLM-4358-H	L-Methionine-*N*-Fmoc ($^{13}C_5$, 97%; ^{15}N, 97%)	0.1 g
CLM-2156	L-Methionine-*N*-*t*-Boc (methyl-^{13}C, 98%)	Please inquire
DLM-10668	D-Phenylalanine-*N*-Fmoc (D_8, 98%)	Please inquire
CLM-4824	L-Phenylalanine-*N*-Fmoc (1-^{13}C, 99%)	0.5 g
CLM-3684	L-Phenylalanine-*N*-Fmoc (ring-$^{13}C_6$, 99%)	0.1 g
DLM-7786	L-Phenylalanine-*N*-Fmoc (ring-D_5, 98%)	0.25 g
DLM-8752	L-Phenylalanine-*N*-Fmoc (D_8, 98%)	0.1 g, 0.25 g
NLM-1265	L-Phenylalanine-*N*-Fmoc (^{15}N, 98%)	1 g
CNLM-4362-H	L-Phenylalanine-*N*-Fmoc ($^{13}C_9$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g, 1 g

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Protected Amino Acids *(continued)*

Catalog No.	Description	Unit Size
CLM-2170	L-Phenylalanine-*N*-*t*-Boc (1-^{13}C, 99%)	0.5 g
CLM-2009	L-Phenylalanine-*N*-*t*-Boc (2-^{13}C, 99%)	0.25 g
CLM-2061	L-Phenylalanine-*N*-*t*-Boc (ring-$^{13}C_6$, 99%)	0.1 g
CLM-7859	L-Phenylalanine-*N*-*t*-Boc ($^{13}C_9$, 97%)	0.05 g
DLM-2157	L-Phenylalanine-*N*-*t*-Boc (ring-D_5, 98%)	1 g
NLM-1905	L-Phenylalanine-*N*-*t*-Boc (^{15}N, 98%)	1 g
CNLM-2393	L-Phenylalanine-*N*-*t*-Boc ($^{13}C_9$, 97%; ^{15}N, 97%)	0.05 g
CLM-8044	L-Proline-*N*-Fmoc (1-^{13}C, 99%)	0.25 g
NLM-3906	L-Proline-*N*-Fmoc (^{15}N, 98%)	0.25 g
CNLM-4347-H	L-Proline-*N*-Fmoc ($^{13}C_5$, 99%; ^{15}N, 97%)	0.1 g, 0.25 g
NLM-2329	L-Proline-*N*-*t*-Boc (^{15}N, 96%)	0.25 g
CNLM-8403-H	L-Serine-*N*-Fmoc ($^{13}C_3$, 99%; ^{15}N, 99%)	1 g
CLM-8167	L-Serine-*N*-Fmoc, *O*-*tert*-butyl ether (1-^{13}C, 99%)	0.25 g
NLM-4630	L-Serine-*N*-Fmoc, *O*-*tert*-butyl ether (^{15}N, 98%)	0.25 g
CNLM-4755-H	L-Serine-*N*-Fmoc, *O*-*tert*-butyl ether ($^{13}C_3$, 99%; ^{15}N, 99%)	0.1 g
CLM-2007	L-Serine-*N*-*t*-Boc, *O*-Bz ether (2-^{13}C, 99%)	Please inquire
CLM-756	L-Serine-*N*-*t*-Boc, *O*-Bz ether (3-^{13}C, 99%)	Please inquire
NLM-2025	L-Serine-*N*-*t*-Boc, *O*-Bz ether (^{15}N, 98%)	0.1 g
NLM-8170	L-Threonine-*N*-Fmoc, *O*-*tert*-butyl ether (^{15}N, 98%)	0.1 g
CNLM-7615-H	L-Threonine-*N*-Fmoc, *O*-*tert*-butyl ether ($^{13}C_4$, 99%; ^{15}N, 99%)	0.1 g
NLM-3681	L-Threonine-*N*-*t*-Boc, *O*-benzyl ether (^{15}N, 98%)	Please inquire
DLM-6113	L-Tryptophan-*N*-Fmoc (indole-D_5, 98%)	0.25 g
NLM-3423	L-Tryptophan-*N*-Fmoc (α-^{15}N, 98%)	Please inquire
CNLM-6077	L-Tryptophan-*N*-Fmoc ($^{13}C_{11}$, 97%; $^{15}N_2$, 97%)	0.1 g
CNLM-9200	L-Tryptophan-*N*-Fmoc, indole-*N*-*t*-Boc (U-$^{13}C_{11}$, 97%; U-$^{15}N_2$, 97%)	Please inquire
CLM-2194	L-Tryptophan-*N*-*t*-Boc (1-^{13}C, 99%)	Please inquire
CLM-11065	L-Tyrosine-*N*-Fmoc, *O*-*tert*-butyl ether ($^{13}C_9$, 99%) CP 94%	Please inquire
NLM-8169	L-Tyrosine-*N*-Fmoc, *O*-*tert*-butyl ether (^{15}N, 98%)	0.1 g
CNLM-4349-H	L-Tyrosine-*N*-Fmoc, *O*-*tert*-butyl ether ($^{13}C_9$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g
DLM-2303	L-Tyrosine-*N*-*t*-Boc, *O*-Bz ether (ring-D_4, 98%)	0.25 g
NLM-1906	L-Tyrosine-*N*-*t*-Boc, *O*-Bz ether (^{15}N, 98%)	0.25 g
CLM-3640	L-Valine-*N*-Fmoc (1-^{13}C, 99%)	1 g
CLM-7793	L-Valine-*N*-Fmoc ($^{13}C_5$, 97%)	0.1 g
DLM-7784	L-Valine-*N*-Fmoc (D_8, 98%)	0.5 g
NLM-4243	L-Valine-*N*-Fmoc (^{15}N, 98%)	1 g
CNLM-4348-H	L-Valine-*N*-Fmoc ($^{13}C_5$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g
CLM-2158	L-Valine-*N*-*t*-Boc (1-^{13}C, 99%)	Please inquire
DLM-3651	L-Valine-*N*-*t*-Boc (D_8, 98%)	0.5 g
NLM-2060	L-Valine-*N*-*t*-Boc (^{15}N, 98%)	0.5 g, 1 g
CNLM-2395	L-Valine-*N*-*t*-Boc ($^{13}C_5$, 97%; ^{15}N, 97%)	0.05 g

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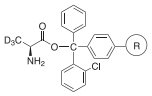
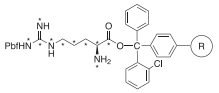
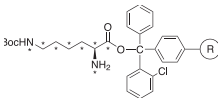
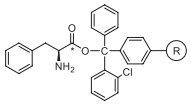
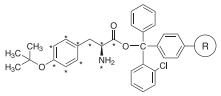
Preloaded Resins

Through collaboration with New England Peptide, Inc. (NEP), CIL is pleased to offer synthesis-ready, preloaded resins to aid the solid-phase synthesis of stable isotope-labeled tryptic peptides. The resins are prepared from isotopically labeled, protected amino acids with the highest chemical, isotopic, and chiral purity available. Please inquire for pricing and unit sizes.

Catalog No.	Description	Structure	Mass Shift from Unlabeled (Da)
SRPR-Ala-D	Preloaded L-Ala (3,3,3-D_3, 98%) 2-ClTrt resin		+3
SRPR-Arg-CN	Preloaded L-Arg, Pbf-OH ($^{13}C_6$, 99%; $^{15}N_4$, 99%) 2-ClTrt resin		+10
SRPR-Lys-CN	Preloaded L-Lys, ε-*N*-*t*-Boc ($^{13}C_6$, 99%; $^{15}N_2$, 99%) 2-ClTrt resin		+8
SRPR-Phe-C	Preloaded L-Phe (1-^{13}C, 98%) Wang resin		+1
SRPR-Tyr-CN	Preloaded L-Tyr, *O*-*tert*-butyl ether ($^{13}C_9$, 99%; ^{15}N, 99%) 2-ClTrt resin		+10

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Bile Acids

The analysis of bile acids (BAs) in biofluids is a developing and growing MS 'omics field. These steroid-like compounds act as detergent that assist in the breakdown of fats. The primary BAs are synthesized from cholesterol in the liver, while secondary BAs are converted from primary BAs in the colon. The bile acids can also be conjugated with glycine or taurine in the liver, which increase their solubility in water. Bile acids have gained clinical attention by their linkage to colon cancer, liver disease, chronic diarrhea, cholestasis, hyperlipidemia, and gallstones. CIL is pleased to offer an extensive panel of primary and secondary BAs, in their free acid and conjugated salt forms. These research-grade products are available as isotopically labeled and/or unlabeled standards in solution (at 100 µg/mL in methanol) and/or neat form.

Primary Bile Acids and Their Conjugated Salts

Catalog No.	Description	Abbreviation	Concentration	Unit Size
DLM-11570-C	Allochenodeoxycholic acid (2,2,4,4-D_4, 98%)	allo-CDCA	100 µg/mL in methanol	1 mL
DLM-11641	Allocholic acid (2,2,4,4-D_4, 98%) CP 95%	allo-CA	neat	1 mg
CLM-2709	Chenodeoxycholic acid (24-^{13}C, 99%)	CDCA	neat	0.1 g, 0.5 g
CLM-11579-C	Chenodeoxycholic acid (22,23,24-$^{13}C_3$, 98%)	CDCA	100 µg/mL in methanol	1 mL
DLM-6780-C	Chenodeoxycholic acid (2,2,4,4-D_4, 98%)	CDCA	100 µg/mL in methanol	1 mL
DLM-6780	Chenodeoxycholic acid (2,2,4,4-D_4, 98%)	CDCA	neat	50 mg
DLM-9327	Chenodeoxycholic acid (2,2,3,4,4-D_5, 98%)	CDCA	neat	0.05 g, 0.1 g
DLM-9541-C	Chenodeoxycholic acid (2,2,3,4,4,6,6,7,8-D_9, 98%)	CDCA	100 µg/mL in methanol	1 mL
DLM-9541	Chenodeoxycholic acid (2,2,3,4,4,6,6,7,8-D_9, 98%)	CDCA	neat	10 mg
DLM-11784	Chenodeoxycholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	CDCA-3S	neat	1 mg
CLM-2710	Cholic acid (24-^{13}C, 99%)	CA	neat	0.1 g, 0.5 g
DLM-2611-C	Cholic acid (2,2,4,4-D_4, 98%)	CA	100 µg/mL in methanol	1 mL
DLM-2611	Cholic acid (2,2,4,4-D_4, 98%)	CA	neat	50 mg
DLM-9549	Cholic acid (2,2,3,4,4-D_5, 98%)	CA	neat	50 mg
DLM-10997	Cholic acid (3,6,6,7,8,11,11,12-D_8, 98%) CP 95%	CA	neat	Please inquire
DLM-11785	Cholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	CA-3S	neat	1 mg
DLM-9550	Glycochenodeoxycholic acid (2,2,3,4,4,6,6,7,8-D_9, 98%) CP 97%	GCDCA	neat	10 mg
DLM-9550-C	Glycochenodeoxycholic acid (2,2,3,4,4,6,6,7,8-D_9, 98%) CP 97%	GCDCA	100 µg/mL in methanol	1 mL
DLM-7804	Glycochenodeoxycholic acid (2,2,4,4-D_4, 98%) CP 97%	GCDCA	neat	10 mg
DLM-7804-C	Glycochenodeoxycholic acid (2,2,4,4-D_4, 98%) CP 97%	GCDCA	100 µg/mL in methanol	1 mL
DLM-11645	Glycochenodeoxycholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	GCDCA-3S	neat	1 mg
DLM-2742-C	Glycocholic acid (2,2,4,4-D_4, 98%)	GCA	100 µg/mL in methanol	1 mL
DLM-2742	Glycocholic acid (2,2,4,4-D_4, 98%) (contains ~4% water) CP 96%	GCA	neat	10 mg
CLM-191	Glycocholic acid (glycine-1-^{13}C, 99%)	GCA	neat	Please inquire
DLM-11640	Glycocholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	GCA-3S	neat	1 mg
DLM-11644	Isochenodeoxycholic acid (2,2,4,4-D_4) CP 95%	iso-CDCA	neat	1 mg
DLM-10627	α-Muricholic acid (2,2,3,4,4-D_5, 99%)	MCA (α)	neat	1 mg
DLM-10626	β-Muricholic acid (2,2,3,4,4-D_5, 99%)	MCA (β)	neat	1 mg
DLM-10628	γ-Muricholic acid (2,2,3,4,4-D_5, 99%)	MCA (γ)	neat	1 mg
DLM-10629	ω-Muricholic acid (2,2,3,4,4-D_5, 99%)	MCA (ω)	neat	1 mg
DLM-11788	β-Muricholic acid 3-sulfate, disodium salt (2,2,3,4,4-D5, 99%)	β-MCA-3S	neat	1 mg
DLM-11647	24-Norcholic acid (2,2,4,4-D_4, 98%) CP 95%	NCA	neat	1 mg
CLM-11577	3-Oxochenodeoxycholic acid (22,23,24-$^{13}C_3$, 98%) CP 97%	oxo-CDCA	neat	1 mg
DLM-9563	Taurochenodeoxycholic acid, sodium salt (2,2,3,4,4,6,6,7,8-D_9, 98%)	TCDCA	neat	5 mg
DLM-9563-C	Taurochenodeoxycholic acid, sodium salt (2,2,3,4,4,6,6,7,8-D_9, 98%)	TCDCA	100 µg/mL in methanol	1 mL
DLM-9562	Taurochenodeoxycholic acid, sodium salt (2,2,4,4-D_4, 98%) CP 97%	TCDCA	neat	10 mg
DLM-9562-C	Taurochenodeoxycholic acid, sodium salt (2,2,4,4-D_4, 98%) CP 97%	TCDCA	100 µg/mL in methanol	1 mL
DLM-11801	Taurochenodeoxycholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	TCDCA-3S	neat	1 mg
DLM-9572	Taurocholic acid, sodium salt (2,2,4,4-D_4, 98%)	TCA	neat	10 mg
DLM-9572-C	Taurocholic acid, sodium salt (2,2,4,4-D_4, 98%)	TCA	100 µg/mL in methanol	1 mL
CNLM-10251	Taurocholic acid, sodium salt (taurine-$^{13}C_2$, 99%; ^{15}N, 98%)	TCA	neat	10 mg

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Catalog No.	Description	Abbreviation	Concentration	Unit Size
DLM-11802	Taurocholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	TCA-3S	neat	1 mg
DLM-11627	Tauro-α-muricholic acid, sodium salt (2,2,3,4,4-D_5, 99%)	T-MCA(α)	neat	1 mg
DLM-11628	Tauro-β-muricholic acid, sodium salt (2,2,3,4,4-D_5, 99%)	T-MCA(β)	neat	1 mg

Unlabeled may be available. Please inquire.

Secondary Bile Acids and Their Conjugated Salts

Catalog No.	Description	Abbreviation	Concentration	Unit Size
CLM-11571	Alloisolithocholic acid (22,23,24-$^{13}C_3$, 98%) CP 97%	allo-iso-LCA	neat	1 mg
CLM-11574	Allolithocholic acid (22,23,24-$^{13}C_3$, 98%) CP 97%	allo-LCA	neat	1 mg
CLM-3364	Deoxycholic acid (24-^{13}C, 98%) CP 97%	DCA	neat	0.1 g, 0.5 g
DLM-2824-C	Deoxycholic acid (2,2,4,4-D_4, 98%)	DCA	100 µg/mL in methanol	1 mL
DLM-2824	Deoxycholic acid (2,2,4,4-D_4, 98%)	DCA	neat	10 mg
DLM-9546-C	Deoxycholic acid (2,2,4,4,11,11-D_6, 98%)	DCA	100 µg/mL in methanol	1 mL
DLM-9546	Deoxycholic acid (2,2,4,4,11,11-D_6, 98%)	DCA	neat	10 mg
DLM-11786	Deoxycholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	DCA-3S	neat	1 mg
DLM-11642	3-Epideoxycholic acid (2,2,4,4-D_4)	3-epiDCA	neat	1 mg
DLM-9554-C	Glycodeoxycholic acid (2,2,4,4-D_4, 98%)	GDCA	100 µg/mL in methanol	1 mL
DLM-9554	Glycodeoxycholic acid (2,2,4,4-D_4, 98%)	GDCA	neat	10 mg
DLM-9553-C	Glycodeoxycholic acid (2,2,4,4,11,11-D_6, 98%)	GDCA	100 µg/mL in methanol	1 mL
DLM-9553	Glycodeoxycholic acid (2,2,4,4,11,11-D_6, 98%)	GDCA	neat	10 mg
DLM-11798	Glycodeoxycholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	GDCA-3S	neat	1 mg
DLM-11625	Glycohyodeoxycholic acid (2,2,4,4-D_4, 98%)	GHDCA	neat	1 mg
DLM-9556-C	Glycolithocholic acid (2,2,4,4-D_4, 98%)	GLCA	100 µg/mL in methanol	1 mL
DLM-9556	Glycolithocholic acid (2,2,4,4-D_4, 98%)	GLCA	neat	10 mg
DLM-11799	Glycolithocholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	GLCA-3S	neat	1 mg
DLM-9558-C	Glycoursodeoxycholic acid (2,2,4,4-D_4, 98%) CP 97%	GUDCA	100 µg/mL in methanol	1 mL
CNLM-10252	Glycoursodeoxycholic acid (glycine-$^{13}C_2$, 99%; ^{15}N, 98%)	GUDCA	neat	10 mg
DLM-9558	Glycoursodeoxycholic acid (2,2,4,4-D_4, 98%) CP 97%	GUDCA	neat	10 mg
DLM-11800	Glycoursodeoxycholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	GUDCA-3S	neat	1 mg
CLM-11567	3β-Hydroxy-5-cholenoic acid (22,23,24-$^{13}C_3$, 98%) CP 97%	3β-OH-Δ5	neat	1 mg
CLM-11587	7α-Hydroxy-3-oxochol-4-en-24-oic acid (22,23,24-$^{13}C_3$, 98%) CP 95%	7-HOCA	neat	1 mg
DLM-11626	Hyodeoxycholic acid (2,2,4,4-D_4, 98%)	HDCA	neat	1 mg
CLM-11575	Isolithocholic acid (22,23,24-$^{13}C_3$, 98%) CP 97%	iso-LCA	neat	1 mg
DLM-11646	Isolithocholic acid (2,2,4,4-D_4, 98%) CP 95%	iso-LCA	neat	1 mg
CLM-11581-C	Lithocholic acid (22,23,24-$^{13}C_3$, 98%)	LCA	100 µg/mL in methanol	1 mL
CLM-11580-C	Lithocholic acid (3,4,23,24-$^{13}C_4$, 98%)	LCA	100 µg/mL in methanol	1 mL
DLM-9560-C	Lithocholic acid (2,2,4,4-D_4, 98%)	LCA	100 µg/mL in methanol	1 mL
DLM-9560	Lithocholic acid (2,2,4,4-D_4, 98%)	LCA	neat	50 mg
DLM-11787	Lithocholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	LCA-3S	neat	1 mg
CLM-11565	3-Oxo-4-cholenoic acid (22,23,24-$^{13}C_3$, 98%) CP 97%	LCA-Δ4 -3-one	neat	1 mg
CLM-11566	3-Oxochola-4,6-dien-24-oic acid (22,23,24-$^{13}C_3$, 98%) CP 97%	—	neat	1 mg
CLM-11573	3-Oxoallolithocholic acid (22,23,24-$^{13}C_3$, 98%) CP 97%	3-oxo-allo-LCA	neat	1 mg
CLM-11572	3-Oxolithocholic acid (22,23,24-$^{13}C_3$, 98%) CP 97%	3-oxo-LCA	neat	1 mg
DLM-9568-C	Taurodeoxycholic acid, sodium salt (2,2,4,4-D_4, 98%)	TDCA	100 µg/mL in methanol	1 mL
DLM-9568	Taurodeoxycholic acid, sodium salt (2,2,4,4-D_4, 98%)	TDCA	neat	10 mg
DLM-9567-C	Taurodeoxycholic acid, sodium salt (2,2,4,4,11,11-D_6, 98%)	TDCA	100 µg/mL in methanol	1 mL
DLM-9567	Taurodeoxycholic acid, sodium salt (2,2,4,4,11,11-D_6, 98%)	TDCA	neat	5 mg
DLM-11803	Taurodeoxycholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	TDCA-3S	neat	1 mg
DLM-11681	Taurohyodeoxycholic acid, sodium salt (2,2,4,4-D_4, 98%)	THDCA	neat	1 mg
DLM-9570-C	Taurolithocholic acid, sodium salt (2,2,4,4-D_4, 98%)	TLCA	100 µg/mL in methanol	1 mL
DLM-9570	Taurolithocholic acid, sodium salt (2,2,4,4-D_4, 98%)	TLCA	neat	10 mg
DLM-11804	Taurolithocholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	TLCA-3S	neat	1 mg

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Bile Acids *(continued)*

Catalog No.	Description	Abbreviation	Concentration	Unit Size
DLM-9882-C	Tauroursodeoxycholic acid, sodium salt (2,2,4,4-D_4, 98%)	TUDCA	100 µg/mL in methanol	1 mL
DLM-9882	Tauroursodeoxycholic acid, sodium salt (2,2,4,4-D_4, 98%)	TUDCA	neat	10 mg
CNLM-10250	Tauroursodeoxycholic acid, sodium salt (taurine-$^{13}C_2$, 99%; ^{15}N, 98%)	TUDCA	neat	10 mg
DLM-11805	Tauroursodeoxycholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	TUDCA-3S	neat	1 mg
CLM-11568	3β,5α,6β-Trihydroxycholanic acid (22,23,24-$^{13}C_3$, 98%)	—	neat	1 mg
CLM-11578-C	Ursodeoxycholic acid (22,23,24-$^{13}C_3$, 98%) CP 97%	UDCA	100 µg/mL in methanol	1 mL
DLM-9574-C	Ursodeoxycholic acid (2,2,4,4-D_4, 98%)	UDCA	100 µg/mL in methanol	1 mL
DLM-9574	Ursodeoxycholic acid (2,2,4,4-D_4, 98%) CP 95%	UDCA	neat	50 mg
DLM-11789	Ursodeoxycholic acid 3-sulfate, disodium salt (2,2,4,4-D_4, 98%)	UDCA-3S	neat	1 mg

Unlabeled may be available. Please inquire.

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Caffeine and Its Metabolites

Caffeine is a psychoactive stimulant of the central nervous system that is extensively consumed worldwide. MS-based research into the kinetics/metabolism of this compound and its metabolites (e.g., paraxanthine, theobromine, theophylline) has revealed insight into its health impact and abuse in humans. Studies further suggest an influence on pharmacological activity and neurodegeneration (e.g., Parkinson's disease); thus, strengthening a need for its robust clinical analyses.

CIL offers stable isotope-labeled caffeine and a collection of isotopically labeled metabolites for basic and translational quantitative research. These standards are available in various labeling patterns, with alternate compounds or labels evaluated upon request.

Catalog No.	Description	Unit Size
CLM-728	Caffeine (3-methyl-^{13}C, 99%)	0.5 g
CLM-514	Caffeine (trimethyl-$^{13}C_3$, 99%)	1 g
NLM-332	Caffeine (1,3-$^{15}N_2$, 99%)	Please inquire
CNLM-333	Caffeine (2-^{13}C, 99%; 1,3-$^{15}N_2$, 98%)	0.1 g
CLM-522	Ethyl acetoacetate (1,3-$^{13}C_2$, 99%)	0.5 g, 1 g
CLM-523	Ethyl acetoacetate (2,4-$^{13}C_2$, 99%)	0.5 g, 1 g
DLM-10436	Theobromine (3,7-dimethylxanthine) (7-methyl-D_3, 98%)	Please inquire
DLM-8565	Theobromine (3,7-dimethylxanthine) (dimethyl-D_6, 98%)	5 mg
CLM-6154	Theophylline (dimethyl-$^{13}C_2$, 99%)	0.1 g
CNLM-444	Theophylline (2-^{13}C, 99%; 1,3-$^{15}N_2$, 98%)	0.05 g, 0.1 g
NLM-1697	Uric acid (1,3-$^{15}N_2$, 98%)	0.1 g, 0.5 g

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Carbohydrates

Carbohydrates are integral biomolecules to the function and process of living systems (e.g., in cell-to-cell signaling, immune responses, protein folding). Although this family of compounds is structurally diverse and complex, analysis by LC- and GC-MS techniques has been well adopted in the metabolomics field. Clinically, the quantitative analysis of sugars in human biosamples is of increasing importance for such disease screenings as cardiovascular and nonalcoholic fatty liver disease (NAFLD).

In addition to the classic monosaccharides (e.g., glucose, fructose, ribose) and sugar alcohols (e.g., erythritol, sorbitol, xylitol), CIL offers a number of other stable isotope-labeled carbohydrates. The list includes monosaccharides, under the pentose (e.g., arabinose, erythrose) and hexose (e.g., galactose, mannose) classes, disaccharides (e.g., lactose, maltose, sucrose), and polysaccharides (e.g., starch). These compounds are supplied with various labeling patterns as neat standards, in research or MPT grade.

Catalog No.	Description	Unit Size
CLM-10786	*N*-Acetyl-D-galactosamine (galactose-$^{13}C_6$, 99%)	Please inquire
CLM-1220	*N*-Acetylglucosamine (*N*-acetyl-1-^{13}C, 99%)	Please inquire
CLM-1827	*N*-Acetylglucosamine ($^{13}C_6$, 99%)	Please inquire
NLM-8810	*N*-Acetylglucosamine (^{15}N, 98%)	0.1 g
CLM-8597	*N*-Acetyl-D-neuraminic acid (4,5,6,7,8,9-$^{13}C_6$, 98%)	Please inquire
CLM-1699	Algal starch (U-^{13}C, 98%) CP 90%	0.1 g, 0.5 g, 1 g
ULM-7806	Algal starch (unlabeled)	1 g
CLM-7642	D-Arabinitol (U-$^{13}C_5$, 98%)	Please inquire
CLM-9657	1,5-Anhydro-D-glucitol (U-$^{13}C_6$, 98%)	Please inquire
CLM-715	D-Arabinose (1-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-1288	D-Arabinose (2-^{13}C, 98%)	Please inquire
CLM-8477	D-Arabinose (U-$^{13}C_5$, 99%)	0.1 g, 0.25 g
DLM-1379	D-Arabinose (2-D, 97%)	Please inquire
CLM-1824	2-Deoxy-D-glucose (1-^{13}C, 99%)	0.1 g, 0.25 g
CLM-2122	2-Deoxy-D-glucose (6-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-10466	2-Deoxy-D-glucose (U-$^{13}C_6$, 99%)	Please inquire
DLM-6732	2-Deoxy-D-glucose (1-D, 98%)	Please inquire
DLM-6940	2-Deoxy-D-glucose (D_8, 98%)	Please inquire
CLM-9601	2-Deoxy-D-glucose-6-phosphate, disodium salt (6-^{13}C, 99%)	Please inquire
CLM-7266	2-Deoxyribose (1-^{13}C, 99%)	Please inquire
DLM-4750	2-Deoxy-D-ribose (5,5-D_2, 98%)	Please inquire
CLM-9207	Erythritol (U-$^{13}C_4$, 99%)	Please inquire
CLM-1118	D-Erythrose (1-^{13}C, 99%) 1.2% in H_2O	Please inquire
CLM-1387	D-Erythrose (2-^{13}C, 99%) 1.2% in H_2O	Please inquire
CLM-8944	D-Erythrose (4-^{13}C, 99%) 1.2% in H_2O	Please inquire
CLM-7863	D-Erythrose (U-$^{13}C_4$, 98%) 1.2% in H_2O	Please inquire
CLM-1201	D-Fructose (1-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-1527	D-Fructose (2-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-7660	D-Fructose (3-^{13}C, 99%)	Please inquire
CLM-7661	D-Fructose (4-^{13}C, 99%)	Please inquire
CLM-7662	D-Fructose (5-^{13}C, 99%)	Please inquire
CLM-1388	D-Fructose (6-^{13}C, 99%)	Please inquire
CLM-2462	D-Fructose (1-^{13}C, 99%; 6-^{13}C, 97%)	Please inquire
CLM-528	D-Fructose (1,2-$^{13}C_2$, 99%)	0.1 g, 0.25 g, 0.5 g
CLM-10546	D-Fructose (4,5-$^{13}C_2$, 99%)	Please inquire
CLM-8415	D-Fructose (1,2,3-$^{13}C_3$, 99%)	Please inquire
CLM-10223	D-Fructose (4,5,6-$^{13}C_3$, 98%)	Please inquire
CLM-1553	D-Fructose (U-$^{13}C_6$, 99%)	0.1 mg, 0.25 g, 0.5 g, 1 g
DLM-6050	D-Fructose (1-D, 97%)	Please inquire
DLM-1389	D-Fructose (6,6-D_2, 98%)	Please inquire

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Catalog No.	Description	Unit Size
CLM-6678	D-Fructose-1,6-bisphosphate, sodium salt, hydrate (1-^{13}C, 99%)	Please inquire
CLM-8962	D-Fructose-1,6-bisphosphate, sodium salt, hydrate (U-$^{13}C_6$, 98%)	0.05 g
CLM-8616	D-Fructose-6-phosphate·2Na$^+$·xH_2O ($^{13}C_6$, 99%) may contain up to ~10% $^{13}C_6$ glucose-6-phosphate	0.01 g, 25 mg, 0.05 g
CLM-3705	L-Fucose (1-^{13}C, 99%)	Please inquire
CLM-219	L-Fucose (6-^{13}C, 99%)	Please inquire
CLM-9605	L-Fucose (U-$^{13}C_6$, 99%)	Please inquire
CLM-529	D-Galactitol (1-^{13}C, 99%)	Please inquire
CLM-2199	D-Galactitol (U-$^{13}C_6$, 99%)	Please inquire
CLM-11003	D-Galactonate, sodium salt (U-$^{13}C_6$, 99%) CP 97%	Please inquire
CLM-744	D-Galactose (1-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-745	D-Galactose (2-^{13}C, 99%)	Please inquire
CLM-4217	D-Galactose (1,2-$^{13}C_2$, 99%)	Please inquire
CLM-1570	D-Galactose (U-$^{13}C_6$, 99%)	0.1 g
DLM-1390	D-Galactose (1-D, 98%)	0.5 g, 1 g
DLM-1391	D-Galactose (2-D, 98%)	Please inquire
CLM-8998	D-Galactose-1-phosphate, dipotassium salt (1-^{13}C, 99%)	0.01 g, 0.05 g, 0.1 g
CLM-9873	D-Galactose-1-phosphate, dipotassium salt (1,2-$^{13}C_2$, 99%)	Please inquire
CLM-9874	D-Galactose-1-phosphate, dipotassium salt (galactose-$^{13}C_6$, 99%)	Please inquire
CLM-9452	α-D-Glucopyranosyl-1-phosphate, dipotassium salt, monohydrate ($^{13}C_6$, 99%)	Please inquire
CLM-9938	D-Glucuronic acid, sodium salt, monohydrate (U-$^{13}C_6$, 98%)	Please inquire
CLM-9883	D-Glucosamine·HCl ($^{13}C_6$, 99%)	Please inquire
NLM-11018	D-Glucosamine·HCl (^{15}N, 98%)	Please inquire
CLM-4819	D-Glucose (U-$^{12}C_6$, 99.9%)	1 g
CLM-420	D-Glucose (1-^{13}C, 98%)	0.25 g, 0.5 g, 1 g, 5 g, 10 g
CLM-746	D-Glucose (2-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-1393	D-Glucose (3-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-1394	D-Glucose (4-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-1395	D-Glucose (5-^{13}C, 98%)	0.25 g, 0.5 g, 1 g
CLM-481	D-Glucose (6-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-2717	D-Glucose (1-^{13}C, 99%; 6-^{13}C, 97%)	0.1 g, 0.25 g, 1 g
CLM-504	D-Glucose (1,2-$^{13}C_2$, 99%)	0.25 g, 0.5 g, 1 g
CLM-8942	D-Glucose (2,3-$^{13}C_2$, 99%)	Please inquire
CLM-6750	D-Glucose (3,4-$^{13}C_2$, 99%)	Please inquire
CLM-8787	D-Glucose (4,5-$^{13}C_2$, 99%)	Please inquire
CLM-4673	D-Glucose (1,2,3-$^{13}C_3$, 99%)	0.05 g, 0.1 g, 0.25 g
CLM-8770	D-Glucose (4,5,6-$^{13}C_3$, 98%)	0.1 g
CLM-8946	D-Glucose (2,3,4,5,6-$^{13}C_5$, 99%)	Please inquire
CLM-1396	D-Glucose (U-$^{13}C_6$, 99%)	0.1 mg, 0.25 g, 0.5 g, 1 g, 2 g, 5 g, 10 g, 25 g, 50 g
CLM-1396-25	D-Glucose ($^{13}C_6$, 24%)	1 g
DLM-1150	D-Glucose (1-D, 98%)	0.25 g, 0.5 g, 1 g
DLM-1271	D-Glucose (2-D, 98%)	0.25 g, 0.5 g, 1 g
DLM-3557	D-Glucose (3-D, 97%)	0.1 g, 0.5 g
DLM-9294	D-Glucose (4-D, 98%)	Please inquire
DLM-6754	D-Glucose (5-D, 98%)	0.1 g, 0.25 g, 0.5 g
DLM-349	D-Glucose (6,6-D_2, 99%)	1 g, 5 g, 10 g
DLM-2062	D-Glucose (1,2,3,4,5,6,6-D_7, 97%)	0.5 g, 1 g, 5 g, 10 g, 20 g
DLM-9047	D-Glucose (U-D_{12}, 98%)	1 g
CDLM-6064	D-Glucose (1-^{13}C, 99%; 1-D, 98%)	Please inquire
CDLM-999	D-Glucose (1-^{13}C, 98%; 2-D, 98%)	Please inquire
CDLM-4895	D-Glucose (1-^{13}C, 99%; 6-^{13}C, 97%; 6,6-D_2, 98%)	Please inquire
CDLM-3813	D-Glucose (U-$^{13}C_6$, 99%; 1,2,3,4,5,6,6-D_7, 97%)	1 g, 2 g, 10 g
CLM-8813	D-Glucose-1-phosphate, dicyclohexylammonium salt, monohydrate (U-$^{13}C_6$, 99%) CP 95%	Please inquire

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Carbohydrates *(continued)*

Catalog No.	Description	Unit Size
CLM-8367	D-Glucose-6-phosphate, disodium salt, hydrate (U-$^{13}C_6$, 99%)	0.1 mg, 0.01 g, 0.05 g, 0.1 g
CLM-1966	L-Glucose (1-^{13}C, 99%)	Please inquire
CLM-1399	L-Glucose (2-^{13}C, 99%)	Please inquire
DLM-7826	*myo*-Inositol (2-D, 91%)	Please inquire
DLM-2725	*myo*-Inositol (1,2,3,4,5,6-D_6, 98%)	Please inquire
CLM-4518	Lactose ureide·XH_2O (ureide-^{13}C, 99%)	1 g, 10 g
ULM-4519	Lactose ureide·$2H_2O$ (unlabeled)	10 g
CLM-4423	Lactose·H_2O (glucose-$^{13}C_6$, 98%)	Please inquire
CLM-1127	D-Lyxose (1-^{13}C, 99%)	Please inquire
CLM-1525	D-Lyxose (2-^{13}C, 99%)	Please inquire
CLM-1128	D-Lyxose (5-^{13}C, 99%)	Please inquire
DLM-1187	D-Lyxose (1-D, 98%)	Please inquire
DLM-1188	D-Lyxose (2-D, 98%)	Please inquire
CLM-2470	L-Lyxose (1,2-$^{13}C_2$, 99%)	Please inquire
CLM-2642	D-Maltose·H_2O (U-$^{13}C_{12}$, 99%)	Please inquire
CLM-10759	Maltotetraose (U-$^{13}C_{24}$, 99%) CP 90%	Please inquire
CLM-1189	D-Mannitol (1-^{13}C, 98%)	0.25 g, 0.5 g, 1 g
CLM-4416	D-Mannitol (2-^{13}C, 99%)	Please inquire
CLM-10764	D-Mannitol (1,2-$^{13}C_2$, 99%)	Please inquire
CLM-6733	D-Mannitol (U-$^{13}C_6$, 99%)	0.1 g
CLM-9393	L-Mannitol (1-^{13}C, 99%)	Please inquire
CLM-358	D-Mannose (1-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-1523	D-Mannose (2-^{13}C, 99%)	Please inquire
CLM-9064	D-Mannose (3-^{13}C, 99%)	Please inquire
CLM-9394	D-Mannose (4-^{13}C, 99%)	Please inquire
CLM-9063	D-Mannose (5-^{13}C, 99%)	Please inquire
CLM-1192	D-Mannose (6-^{13}C, 99%)	Please inquire
CLM-6567	D-Mannose (U-$^{13}C_6$, 99%)	0.1 g, 0.25 g, 0.5 g
DLM-1193	D-Mannose (1-D, 98%)	Please inquire
DLM-1194	D-Mannose (2-D, 98%)	Please inquire
DLM-1195	D-Mannose (6,6-D_2, 98%)	Please inquire
CLM-1218	L-Mannose (1-^{13}C, 99%)	Please inquire
CLM-10491	3-*O*-Methyl-D-glucose ($^{12}C_6$, 99.99%) ^{13}C depleted	Please inquire
CLM-10492	3-*O*-Methyl-D-glucose ($^{13}C_6$, 99%)	Please inquire
CLM-10568	L-Rhamnose·H_2O (U-$^{13}C_6$, 99%)	Please inquire
CLM-1196	D-Ribitol (1-^{13}C, 99%)	Please inquire
CLM-768	D-Ribose (1-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-1069	D-Ribose (2-^{13}C, 99%)	Please inquire
CLM-1066	D-Ribose (5-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-4602	D-Ribose (1,2-$^{13}C_2$, 99%)	Please inquire
CLM-4830	D-Ribose (2,3,4,5-$^{13}C_4$, 99%)	Please inquire
CLM-3652	D-Ribose (U-$^{13}C_5$, 98%)	0.1 mg, 0.1 g
DLM-1070	D-Ribose (1-D, 98%)	0.25 g, 0.5 g, 1 g
DLM-1197	D-Ribose (2-D, 98%)	Please inquire
DLM-6559	D-Ribose (3-D, 98%)	Please inquire
DLM-7778	D-Ribose (5,5-D_2, 98%)	Please inquire
CLM-8780	Sodium D-gluconate (1-^{13}C, 99%)	Please inquire
CLM-8781	Sodium D-gluconate (U-$^{13}C_6$, 99%)	Please inquire
CLM-1565	D-Sorbitol (1-^{13}C, 99%)	Please inquire
CLM-8529	D-Sorbitol (U-$^{13}C_6$, 98%)	0.1 g, 0.25 g
DLM-3320	Sorbitol (1,1'-D_2, 98%)	Please inquire

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
For research use only. Not for use in diagnostic procedures.

Catalog No.	Description	Unit Size
CLM-10823	D-Sucrose (glucose-1,2-$^{13}C_2$, 99%)	Please inquire
CLM-9811	D-Sucrose (fructose-$^{13}C_6$, 98%)	Please inquire
CLM-8091	D-Sucrose (glucose-$^{13}C_6$, 98%)	0.1 mg
CLM-7757	D-Sucrose ($^{13}C_{12}$, 98%)	Please inquire
DLM-10939	D-Sucrose (U-D_{22}, 98%)	Please inquire
CLM-1203	D-Talitol (1-^{13}C, 99%)	Please inquire
CLM-1204	D-Talose (2-^{13}C, 99%)	Please inquire
CLM-1139	D-Threose (1-^{13}C, 99%) 1.8% in H_2O	Please inquire
CLM-1207	D-Threose (2-^{13}C, 99%) 1.8% in H_2O	Please inquire
CLM-1295	D-Xylitol (1-^{13}C, 99%)	Please inquire
CLM-1214	D-Xylitol (5-^{13}C, 99%)	Please inquire
CLM-7608	D-Xylitol (U-$^{13}C_5$, 99%)	Please inquire
DLM-9656	D-Xylitol (1,1',2,3,4,5,5'-D_7, 98%)	Please inquire
CLM-1140	D-Xylose (1-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-1524	D-Xylose (2-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-8593	D-Xylose (3-^{13}C, 99%)	Please inquire
CLM-9083	D-Xylose (4-^{13}C, 99%)	Please inquire
CLM-1219	D-Xylose (5-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-2456	D-Xylose (1,2-$^{13}C_2$, 99%)	0.25 g, 0.5 g, 1 g
CLM-6140	D-Xylose (U-$^{13}C_5$, 99%)	0.25 g, 0.5 g, 1 g
DLM-1215	D-Xylose (1-D, 99%)	Please inquire
DLM-1216	D-Xylose (2-D, 98%)	Please inquire
DLM-7121	D-Xylose (D_6, 98%)	Please inquire
CLM-11008	D-Xylulose (U-$^{13}C_5$, 98%)	Please inquire
CLM-11008	D-Xylulose (U-$^{13}C_5$, 98%)	Please inquire

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Carnitine and Acylcarnitines

Carnitine and acylcarnitines play an essential role in fatty acid metabolism. Metabolism disorders of fatty acid oxidation and several organic acidurias impose major clinical manifestations (e.g., hypoketotic hypoglycemia, skeletal myopathy, liver disease, and/or failure). These are largely attributed to enzymatic deficiencies and can be monitored through carnitine/acylcarnitine measurement.

To help facilitate metabolic screening exercises, CIL is pleased to offer a variety of stable isotope-labeled and unlabeled carnitine/acylcarnitine standards. Please refer to page 44 for a list of mix offerings; individual standards are noted below.

Catalog No.	Description	Abbreviation	Unit Size
ULM-7801	L-Carnitine (unlabeled)	C0	Please inquire
DLM-1871	L-Carnitine·HCl (methyl-D_3, 98%)	C0	0.1 g
DLM-3820	L-Carnitine·HCl (dimethyl-D_6, 98%)	C0	Please inquire
DLM-10962	L-Carnitine·HCl (trimethyl-D_9, 98%)	C0	5 mg
DLM-3555	L-Carnitine (trimethyl-D_9, 98%)	C0	Please inquire
DNLM-10613	L-Carnitine (*N,N,N*-trimethyl-D_9, 98%; ^{15}N, 98%)	C0	Please inquire
ULM-9173	L-Carnitine·HCl (unlabeled)	C0	Please inquire
ULM-10431	DL-Carnitine·HCl, *O*-acetyl (unlabeled)	C2	Please inquire
DLM-754	L-Carnitine·HCl, *O*-acetyl (*N*-methyl-D_3, 98%)	C2	0.05 g
DLM-3821	L-Carnitine·HCl, *O*-acetyl (*N,N*-dimethyl-D_6, 98%) CP 97%	C2	Please inquire
ULM-7802	L-Carnitine·HCl, *O*-acetyl (unlabeled)	C2	Please inquire
ULM-10702	DL-Carnitine·HCl, *O*-propionyl (unlabeled)	C3	Please inquire
DLM-3973	L-Carnitine·HCl, *O*-propionyl (*N*-methyl-D_3, 98%)	C3	10 mg
ULM-7705	L-Carnitine·HCl, *O*-propionyl (unlabeled)	C3	Please inquire
DLM-11049	L-Carnitine·ClO_4, *O*-malonyl (D_3, 98%) CP 95%	C3-DC	Please inquire
ULM-8743	L-Carnitine·ClO_4, *O*-malonyl (unlabeled) CP 97%	C3-DC	0.1 mg
ULM-10703	DL-Carnitine·HCl, *O*-butyrl (unlabeled)	C4	Please inquire
DLM-3861	L-Carnitine·HCl, *O*-butyryl (*N*-methyl-D_3, 98%)	C4	10 mg
ULM-7704	L-Carnitine·HCl, *O*-butyryl (unlabeled)	C4	Please inquire
ULM-12274	L-Carnitine, *O*-methylmalonyl, lithium salt (unlabeled) in solution	C4-DC	Please inquire
DLM-11769	L-Carnitine·HCl, *O*-3-hydroxybutyryl (*N*-methyl-D_3, 98%) CP 95%	C4-OH	Please inquire
ULM-8621	L-Carnitine (mono)·ClO_4, *O*-3-DL-hydroxybutyryl (unlabeled)	C4-OH	0.1 mg
ULM-10704	DL-Carnitine·HCl, *O*-isovaleryl (unlabeled)	C5	Please inquire
DLM-3974	L-Carnitine·HCl, *O*-isovaleryl (*N,N,N*-trimethyl-D_9, 98%)	C5	5 mg
ULM-4697	L-Carnitine·HCl, *O*-isovaleryl (unlabeled)	C5	Please inquire
DLM-12325	L-Carnitine·ClO_4, *O*-tiglyl (*N,N,N*-trimethyl-D_9, 98%) CP 90%	C5:1	Please inquire
ULM-11154	L-Carnitine, *O*-tiglyl (unlabeled) CP 94%	C5:1	Please inquire
DLM-3975	L-Carnitine (mono)·ClO_4, *O*-glutaryl (*N*-methyl-D_3, 98%) CP 97%	C5-DC	0.1 mg
ULM-7594	L-Carnitine (mono)·ClO_4, *O*-glutaryl (unlabeled)	C5-DC	0.1 mg
DLM-8272	L-Carnitine·ClO_4, 3-hydroxyisovaleryl (*N*-methyl-D_3, 98%)	C5-OH	1 mg
ULM-8237	L-Carnitine·ClO_4, 3-hydroxyisovaleryl (unlabeled)	C5-OH	0.1 mg
DLM-9276	L-Carnitine·HCl, *O*-hexanoyl (*N*-methyl-D_3, 98%)	C6	0.1 mg
ULM-7198	L-Carnitine·HCl, *O*-hexanoyl (unlabeled)	C6	Please inquire
ULM-10432	DL-Carnitine·HCl, *O*-octanoyl (unlabeled)	C8	Please inquire
DLM-755	L-Carnitine·HCl, *O*-octanoyl (*N*-methyl-D_3, 98%)	C8	10 mg
ULM-7770	L-Carnitine·HCl, *O*-octanoyl (unlabeled)	C8	Please inquire
DLM-9067	L-Carnitine·HCl, *O*-decanoyl (*N*-methyl-D_3, 98%)	C10	0.1 mg
CNLM-11665	L-Carnitine·HCl, *O*-decanoyl (trimethyl-$^{13}C_3$, 98%; ^{15}N, 98%) CP 95%	C10	1 mg
ULM-7195	L-Carnitine·HCl, *O*-decanoyl (unlabeled)	C10	Please inquire
DLM-8746	L-Carnitine·HCl, *O*-2-decenoyl (*N,N,N*-trimethyl-D_9, 98%) 95% E	C10:1	Please inquire
ULM-8198	L-Carnitine·HCl, *O*-2-decenoyl (unlabeled)	C10:1	0.1 mg
DLM-8162	L-Carnitine·HCl, *O*-dodecanoyl (*N*-methyl-D_3, 98%)	C12	0.1 mg
DLM-8215	L-Carnitine·HCl, *O*-dodecanoyl (*N,N,N*-trimethyl-D_9, 98%)	C12	0.1 mg
ULM-7199	L-Carnitine·HCl, *O*-dodecanoyl (unlabeled)	C12	0.1 mg
ULM-10705	DL-Carnitine·HCl, *O*-myristoyl (unlabeled)	C14	Please inquire

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Catalog No.	Description	Abbreviation	Unit Size
DLM-4425	L-Carnitine·HCl, *O*-myristoyl (*N,N,N*-trimethyl-D_9, 98%)	C14	5 mg
ULM-7737	L-Carnitine·HCl, *O*-myristoyl (unlabeled)	C14	Please inquire
DLM-12326	L-Carnitine·ClO_4, tetradec-5-*cis*-enoyl (*N,N,N*-trimethyl-D_9, 98%) CP 90%	C14:1	Please inquire
ULM-11318	L-Carnitine·ClO_4, tetradec-5-*cis*-enoyl (unlabeled) CP 90%	C14:1	Please inquire
ULM-10433	DL-Carnitine·HCl, *O*-palmitoyl (unlabeled) CP 97%	C16	Please inquire
DLM-1263	L-Carnitine·HCl, *O*-palmitoyl (*N*-methyl-D_3, 98%)	C16	10 mg
ULM-7738	L-Carnitine·HCl, *O*-palmitoyl (unlabeled)	C16	Please inquire
DLM-9189	L-Carnitine (mono)·ClO_4, *O*-3-DL-hydroxypalmitoyl (*N*-methyl-D_3, 98%)	C16-OH	0.1 mg
ULM-8620	L-Carnitine (mono)·ClO_4, *O*-3-DL-hydroxypalmitoyl (unlabeled) CP 97%	C16-OH	0.1 mg
DLM-8271	L-Carnitine·HCl, *O*-octadecanoyl (*N*-methyl-D_3, 98%)	C18	0.1 mg
CNLM-11666	L-Carnitine·HCl, *O*-octadecanoyl (trimethyl-$^{13}C_3$, 98%; ^{15}N, 98%) CP 95%	C18	1 mg
ULM-7196	L-Carnitine·HCl, *O*-octadecanoyl (unlabeled) CP 97%	C18	0.1 mg
DLM-6718	L-Carnitine·HCl, *O*-hexacosanoyl (*N*-methyl-D_3, 98%) CP 95%	C26	Please inquire
DLM-11174	L-Carnitine·HCl, *O*-hexacosanoyl (*N,N,N*-trimethyl-D_9, 98%) CP 95% (may contain solvent)	C26	Please inquire
ULM-6719	L-Carnitine·HCl, *O*-hexacosanoyl (unlabeled) CP 95%	C26	Please inquire
DLM-11594	L-Carnitine, *O*-hexacosanoyl (*N*-methyl-D_3, 98%) CP 95%	C26	1 mg
DLM-11741	L-carnitine, *O*-hexacosanoyl perchlorate (*N*-methyl-D_3, 98%) CP 95%	C26	Please inquire

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Drugs and Their Metabolites

The field and scope of drug screening/analysis continues to expand worldwide. Example areas of focus include therapeutic drug monitoring, drugs of abuse, prescription monitoring, and clinical toxicology. The nature of those monitored or identified in the MS-based analysis include psychoactive drugs (e.g., benzodiazepines, cannabinoids, hallucinogens), pain-management drugs (e.g., analgesics, opiates, skeletal muscle relaxants), disorder-related treatment drugs (e.g., anticonvulsants/antiepileptics, antipsychotics, erectile dysfunction), and infectious disease or disease-related treatment drugs (e.g., antibiotics, antiarrhythmics).

CIL is pleased to offer a broad collection of unlabeled and stable isotope-labeled standards to aid the qualitative/quantitative analysis of drugs and their metabolites. These encompass a multitude of classes (e.g., analgesics, benzodiazepines, cannabinoids and its agonists, opiate and opioid analgesics, stimulants). The offerings are individual standards and/or class-specific mixtures in predominantly their concentrated solution form.

Amphetamines

Catalog No.	Description	Concentration	Unit Size
CLM-10393-B	DL-MDEA·HCl (ring-$^{13}C_6$, 98%) CP 95%	50 µg/mL in methanol	1 mL
CLM-10390-B	DL-Methamphetamine·HCl (ring-$^{13}C_6$, 98%) CP 95%	50 µg/mL in methanol	1 mL

Analgesics

Catalog No.	Description	Concentration	Unit Size
CLM-2436	Acetaminophen (carbonyl-^{13}C, 99%)	neat	Please inquire
CLM-10619	Acetaminophen (ring-$^{13}C_6$, 98%)	neat	1 mg
CNLM-3726-1.2	Acetaminophen (acetyl-$^{13}C_2$, 99%; ^{15}N, 98%)	100 µg/mL in acetonitrile	1.2 mL
CNLM-3726	Acetominophen (acetyl-$^{13}C_2$, 99%; ^{15}N, 98%)	neat	1 g
ULM-7629-1.2	Acetominophen (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-630	Aminopyrine (*N,N*-dimethyl-$^{13}C_2$, 99%)	neat	1 g
CLM-1296	Phenacetin (ethoxy-1-^{13}C, 99%)	neat	0.5 g, 1 g

Antibiotics

Catalog No.	Description	Concentration	Unit Size
CLM-123	Erythromycin (*N*-methyl-^{13}C, 99%)	neat	1 g
CDLM-10030-MT-1.2	Erythromycin (*N*-methyl-^{13}C, 99%; D_3, 98%) CP 97%	100 µg/mL in methyl-*tert* butyl ester (MTBE)	1.2 mL
CLM-165	Erythromycin, lactobionate salt (*N*-methyl-^{13}C, 99%)	neat	1 g
CLM-3758	Erythromycin, lactobionate salt (*N,N*-dimethyl-$^{13}C_2$, ~90%)	neat	Please inquire
CLM-3045-1.2	Sulfamethazine (phenyl-$^{13}C_6$, 99%)	100 µg/mL in acetonitrile	1.2 mL
CLM-3045	Sulfamethazine (phenyl-$^{13}C_6$, 99%)	neat	10 mg
ULM-7220-1.2	Sulfamethazine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-7988-A-1.2	Trimethoprim (pyrimidine-4,5,6-$^{13}C_3$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-7989-A-1.2	Trimethoprim (unlabeled)	50 µg/mL in methanol	1.2 mL

Anticonvulsants/Antiepileptics

Catalog No.	Description	Concentration	Unit Size
DLM-3025	5,5-Diphenylhydantoin (phenyl-D_5, 98%)	neat	10 mg
DLM-324	5,5-Diphenylhydantoin (diphenyl-D_{10}, 98%)	neat	0.01 g, 0.1 g
CNLM-411-1.2	5,5-Diphenylhydantoin (2-^{13}C, 99%; 1,3-$^{15}N_2$, 98%)	100 µg/mL in methanol	1.2 mL
CNLM-411	5,5-Diphenylhydantoin (2-^{13}C, 99%; 1,3-$^{15}N_2$, 98%)	neat	0.01 g, 0.05 g
ULM-8533-1.2	5,5-Diphenylhydantoin (unlabeled)	100 µg/mL in methanol	1.2 mL
CNLM-7633	Lamotrigine (5,6-$^{13}C_2$, 99%; 5-amino-^{15}N, 98%)	neat	10 mg

Antidepressants

Catalog No.	Description	Concentration	Unit Size
DLM-2762	Amitriptyline·HCl (*N*-methyl-D_3, 98%)	neat	Please inquire
DLM-2790	Buspirone·HCl (butyl-D_8, 98%)	neat	Please inquire
DLM-3020	Desipramine·HCl (2,4,6,8-D_4, 98%)	neat	5 mg
DLM-3035	Imipramine·HCl (2,4,6,8-D_4, 98%) CP 97%	neat	2 mg
DLM-3038	Nortriptyline·HCl (methyl-D_3, 98%)	neat	5 mg, 0.1 g

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Antipsychotics

Catalog No.	Description	Concentration	Unit Size
DLM-2816	Clozapine (4-methylpiperazinyl-D_4, 97%)	neat	5 mg, 10 mg

Barbituates

Catalog No.	Description	Concentration	Unit Size
DLM-433	Phenobarbital (ethyl-D_5, 98%)	neat	0.1 g
DLM-2659	DL-Secobarbital (1-methyl-D_3, butyl-2,2-D_2, 98%)	neat	Please inquire

Benzodiazepines

Catalog No.	Description	Concentration	Unit Size
CLM-10630-B	Clobazam (ring-[χ]-$^{13}C_6$, 98%) CP 95%	50 µg/mL in methanol	1 mL
CLM-10631-B	Clonazepam (ring-[α]-$^{13}C_6$, 98%) CP 95%	50 µg/mL in methanol	1 mL
CLM-10632-B	Diazepam (ring-[α]-$^{13}C_6$, 98%) CP 95%	50 µg/mL in methanol	1 mL
DLM-1886	Diazepam (phenyl-D_5, 98%)	neat	Please inquire
DLM-1885	Nordiazepam (phenyl-D_5, 98%)	neat	Please inquire
DLM-1888	Oxazepam (phenyl-D_5, 98%)	neat	Please inquire
CLM-10640-B	Triazolam (ring-[α]-$^{13}C_6$, 98%) CP 95%	50 µg/mL in methanol	1 mL

Cannabinoids and Its Agonists

Catalog No.	Description	Concentration	Unit Size
DLM-10854-1.2	Cannabichromene (CBC) (methyl-D_3, 98%)	100 µg/mL in methanol	1.2 mL
DLM-10854	Cannabichromene (CBC) (methyl-D_3, 98%)	neat	Please inquire
ULM-10878-1.2	Cannabichromene (CBC) (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-10855-1.2	Cannabidiol (CBD) (D_3, 98%)	100 µg/mL in methanol	1.2 mL
DLM-10855	Cannabidiol (CBD) (D_3, 98%)	neat	Please inquire
ULM-10876-1.2	Cannabidiol (CBD) (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-11140-1.2	Cannabidivarin (CBDV) (methyl-D_3, 98%)	100 µg/mL in methanol	1.2 mL
DLM-11140	Cannabidivarin (CBDV) (methyl-D_3, 98%)	neat	Please inquire
DLM-10853-1.2	Cannabigerol (CBG) (methyl-D_3, 98%)	100 µg/mL in methanol	1.2 mL
DLM-10853	Cannabigerol (CBG) (methyl-D_3, 98%)	neat	Please inquire
ULM-10877-1.2	Cannabigerol (CBG) (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-10847-1.2	Cannabinol (CBN) (methyl-D_3, 98%)	100 µg/mL in methanol	1.2 mL
DLM-10847	Cannabinol (CBN) (methyl-D_3, 98%)	neat	Please inquire
ULM-10875-1.2	Cannabinol (CBN) (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-10915-1.2	Cannabivarin (CBV) (methyl D_3, 98%) CP 97%	100 µg/mL in methanol	1.2 mL
DLM-10915	Cannabivarin (CBV) (methyl-D_3, 98%) CP 97%	neat	Please inquire
ULM-10916-1.2	Cannabivarin (CBV) (unlabeled) CP 97%	1000 µg/mL in methanol	1.2 mL
DLM-10846-1.2	(-)-Δ^9-(THC) (methyl-D_3, 98%)	100 µg/mL in methanol	1.2 mL
DLM-10707-1.2	Tetrahydrocannabivarin (THCV) (propyl-3,3,3-D_3, 98%) CP 97%	100 µg/mL in methanol	1.2 mL
DLM-10707	Tetrahydrocannabivarin (THCV) (propyl-3,3,3-D_3, 98%) CP 97%	neat	Please inquire

Cardiac Drugs

Catalog No.	Description	Concentration	Unit Size
DLM-1287-1.2	Clonidine·HCl (4,4,5,5-imidazoline-D_4, 98%)	100 µg/mL in methanol	1.2 mL
DLM-1287	Clonidine·HCl (4,4,5,5-imidazoline-D_4, 98%) CP 95%	neat	5 mg, 10 mg
DLM-2745	Enalapril maleate (phenyl-D_5, 98%)	neat	Please inquire
CNLM-10539	Mecamylamine·HCl (tetramethyl-$^{13}C_4$, 99%; ^{15}N, 98%)	neat	1 mg, 10 mg

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Drugs and Their Metabolites *(continued)*

Hallucinogens

Catalog No.	Description	Concentration	Unit Size
DLM-2646	5-Methoxytryptamine·HCl ($\alpha,\alpha,\beta,\beta$-$D_4$, 98%)	neat	0.01 g, 0.1 g

Immunosuppressants

Catalog No.	Description	Concentration	Unit Size
DLM-9855	Everolimus (2-hydroxyethyl-D_4, 98%)	neat	1 mg
ULM-9856-C	Everolimus (unlabeled)	100 µg/mL in methanol	1 mL
ULM-9856	Everolimus (unlabeled)	neat	10 mg
DLM-9220	Rapamycin (D_3, 98%)	neat	1 mg, 5 mg, 10 mg

Opiate and Opiod Analgesics

Catalog No.	Description	Concentration	Unit Size
CNLM-10389-B	Codeine (9,10,15,16-$^{13}C_4$, 98%; ^{15}N, 98%) CP 95%	50 µg/mL in methanol	1 mL
DLM-1881SA	Morphine·H_2O (*N*-methyl-D_3, 98%)	0.1 mg/mL in methanol	Please inquire
CLM-7491	*cis*-(±)-Tramadol·HCl (methoxy-^{13}C, 99%)	neat	Please inquire

Other Compounds

Catalog No.	Description	Concentration	Unit Size
DLM-10575	Aldox (D_6, 98%) CP 96%	neat	Please inquire
DLM-10574	Alexidine·2HCl (D_{10}, 98%) CP 97%	neat	Please inquire
CLM-6585	Aspirin (acetyl-1-^{13}C, 99%)	neat	Please inquire
CLM-3655	Azidothymidine (AZT) (methyl-^{13}C, 99%) CP 96%	neat	10 mg
CLM-10608	1,2-Benzisothiazol-3(2H)-one (ring-$^{13}C_6$, 95%) CP 95%	neat	Please inquire
DLM-1566	Benztropine mesylate (*N*-methyl-D_3, 98%) CP 95%	neat	10 mg
CLM-1608	Chloral hydrate (trichloromethyl-^{13}C, 97%)	neat	10 mg
DLM-10609	5-Chloro-2-methyl-4-isothiazolin-3-one (*N*-methyl-D_3, 98%)	neat	Please inquire
CLM-10642	*p*-Coumaric acid (propyl-$^{13}C_3$, 99%)	neat	1 mg, 5 mg
DLM-7504	Dexamethasone (4,6α,21,21-D_4, 96%) (may contain D at C-2)	neat	Please inquire
CLM-3369	Dopamine·HCl (ring-$^{13}C_6$, 99%)	neat	Please inquire
DLM-2181	Dopamine·HCl (ring-D_3, 98%)	neat	0.1 g
DLM-2498	Dopamine·HCl (1,1,2,2-D_4, 97%)	neat	0.01 g, 0.1 g
DLM-2744	Enalaprilat·H_2O (phenyl-D_5, 98%)	neat	Please inquire
CLM-10404	Estradiol undecanoate (2,3,4-$^{13}C_3$, 98%) CP 95%	neat	1 mg
CLM-10405	Fenoprofen, sodium salt, hydrate (ring-$^{13}C_6$, 99%)	neat	1 mg
DLM-3996	Glybenclamide (cyclohexylamine-D_{11}, 98%)	neat	Please inquire
CLM-373	Homovanillic acid (1,2-$^{13}C_2$, 98%)	neat	0.1 g
DLM-2738	Homovanillic acid (phenyl-D_3, 2,2-D_2, 96%)	neat	0.1 g
COLM-376	Homovanillic acid (ring-$^{13}C_6$, 99%; 4-hydroxy-^{18}O, 90%)	neat	10 mg
DLM-10541	Iopromide (*N*-methyl-D_3, 98%)	neat	1 mg
CLM-7118	Ketoconazole (carbonyl-^{13}C, 99%)	neat	Please inquire
CNLM-10406	Kevetrin·HCl ($^{13}C_2$, 98%; $^{15}N_3$, 98%) CP 95%	neat	1 mg
DLM-7861	Metformin·HCl (dimethyl-D_6, 99%)	neat	Please inquire
CLM-1280	Methacetin (methoxy-^{13}C, 99%)	neat	1 g, 10 g
CLM-7522	Naproxen, sodium salt (*O*-methyl-^{13}C, 98%)	neat	Please inquire
DLM-8609	DL-Normetanephrine·HCl (α,β,β-D_3, 98%)	neat	5 mg, 10 mg
DLM-10618	Obeticholic acid (2,2,4,4-D_4, 98%)	neat	1 mg
ULM-10473-C	Stanozolol (unlabeled)	100 µg/mL in methanol	1 mL
CLM-7119	Temozolomide (methyl-^{13}C, 99%)	neat	Please inquire
CNLM-9258	1,2,4-Triazole (3,5-$^{13}C_2$, 99%; 1,2,4-$^{15}N_3$, 98%)	neat	1 mg, 5 mg

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Stimulants

Catalog No.	Description	Concentration	Unit Size
CLM-10387-B	DL-Amphetamine·HCl (ring-$^{13}C_6$, 98%) CP 95%	50 µg/mL in methanol	1 mL
CLM-728	Caffeine (3-methyl-^{13}C, 99%)	neat	0.5 g
CLM-514-1.2	Caffeine (trimethyl-$^{13}C_3$, 99%)	100 µg/mL in methanol	1.2 mL
CLM-514	Caffeine (trimethyl-$^{13}C_3$, 99%)	neat	1 g
NLM-332	Caffeine (1,3-$^{15}N_2$, 99%)	neat	Please inquire
CNLM-333	Caffeine (2-^{13}C, 99%; 1,3-$^{15}N_2$, 98%)	neat	0.1 g
ULM-7653-1.2	Caffeine (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-1819-1.2	DL-Cotinine (methyl-D_3, 98%)	100 µg/mL in acetonitrile	1.2 mL
DLM-1819	DL-Cotinine (methyl-D_3, 98%)	neat	0.01 g, 0.1 g, 0.5 g
CLM-3914-1.2	DL-Nicotine (3′,4′,5′-$^{13}C_3$, 99%)	100 µg/mL in acetonitrile	1.2 mL
CLM-3914	DL-Nicotine (3′,4′,5′-$^{13}C_3$, 99%)	neat	0.1 g
DLM-1818	DL-Nicotine (methyl-D_3, 98%)	neat	0.1 g, 0.5 g
DLM-9017	DL-Nornicotine (pyridine-D_4, 98%)	neat	Please inquire

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
For research use only. Not for use in diagnostic procedures.

Fatty Acids and Lipids

Fatty acids and lipids are important biological compounds that are essential to the regulation and control of cellular functions and metabolic pathways. These biomolecules are also tied to the energetic balance of an organism. Their qualitative/quantitative analysis has emerged to better understand the underlying pathophysiology, as well as to identify new biomarkers or diagnose existing ones.

To aid such research initiatives, CIL is pleased to offer a multitude of stable isotope-labeled and unlabeled fatty acids and lipids. The fatty acids cover saturated and unsaturated classes, while the lipids include ceramides (e.g., *N*-palmitoyl-D-sphingosine, *N*-oleoyl-D-sphingosine), and phospholipids (e.g., dodecylphosphocholine, dipalmitoyl phosphatidylcholine), as well as triacylglycerides (e.g., tripalmitin, tristearin, triolein). These are available in various labeling patterns (i.e., uniform, partial), forms (i.e., free acid, salt, ester), and material grades (i.e., research, MPT).

Catalog No.	Description	Unit Size
DLM-10481	Arachidic acid (2,2-D_2, 98%)	Please inquire
DLM-1234	Arachidic acid (methyl-D_3, 98%) CP 97%	0.1 g
DLM-10519	Arachidic acid (12,12,13,13-D_4, 98%)	0.1 g, 0.25 g
DLM-1233	Arachidic acid (D_{39}, 98%)	1 g
DLM-1661-N	Arachidonic acid (5,6,8,9,11,12,14,15-D_8, 98%)	5 mg
DLM-11670	Arachidonic acid (d16,16,17,17,8,18,19,19,20,20,20-D_{11}, 98%) CP 95%	1 mg
ULM-10272	Arachidonic acid (unlabeled)	Please inquire
CLM-9666	Butyric acid (1-^{13}C, 99%)	1 g
CLM-9215	Butyric acid ($^{13}C_4$, 99%)	0.1 g
DLM-1110	Butyric acid (3,3,4,4,4,-D_5, 97%)	Please inquire
DLM-1508	Buytric acid (D_7, 98%)	5 g
CLM-9768	Butyryl coenzyme A, lithium salt (butyryl-$^{13}C_4$, 99%) CP 95% (in solution)	Please inquire
DLM-10279	Coenzyme Q10 (ubiquinone) (dimethoxy-D_6, methyl-D_3, 98%) CP 97%	1 mg, 5 mg
DLM-2006	Decanoic acid (methyl-D_3, 98%)	0.5 g, 1 g
DLM-270	Decanoic acid (D_{19}, 98%)	1 g
DLM-1002	*N*-Decanol (D_{21}, 98%)	1 g
ULM-9721	*N*-Decanoyl-D-sphingosine (ceramide d18:1/10:0) (unlabeled) CP 97%	Please inquire
DLM-677-1.2	Dibenz[*A,H*]anthracene (D_{14}, 98%) (200 µg/mL in toluene-D_8)	1.2 mL
DLM-677	Dibenz[*A,H*]anthracene (D_{14}, 98%)	0.01 g, 0.1 g, 0.5 g
DLM-11092	1,2-Diheptanoyl-*SN*-glycero-3-phosphocholine (heptanoyl-D_{26}, 97%; 50-60% on alpha carbons)	100 mg
DLM-11085	1,2-Dihexanoyl-*SN*-glycero-3-phosphocholine (hexanoyl-D_{22}, 97%; 50-60% on alpha carbons)	100 mg
DLM-11093	1,2-Dimyristoyl-*SN*-glycero-3-phosphocholine (dimyristoyl-D_{54}, 97%; 50-60% on alpha carbons)	100 mg
DLM-11097	1,2-Dimyristoyl-*SN*-glycero-3-phosphoglycerol, ammonium salt (dimyristoyl-D_{54}, 99%; 50-60% on alpha carbons)	100 mg
DLM-11094	1,2-Dipalmitoyl-*SN*-glycero-3-phosphocholine (dipalmitoyl-D_{62}, 97%; 50-60% on alpha carbons)	100 mg
DLM-11098	1,2-Dipalmitoyl-*SN*-glycero-3-phosphoethanolamine (dipalmitoyl-D_{62}, 97%; 50-60% at alpha carbon)	100 mg
DLM-11099	1,2-Dipalmitoyl-*SN*-glycero-3-phosphoserine, ammonium salt (dipalmitoyl-D_{62}, 97%; 50-60% on alpha carbons)	50 mg
DLM-11093	1,2-Dimyristoyl-*SN*-glycero-3-phosphocholine (DMPC) (dimyristoyl-D_{54}, 99%; 50-60% on alpha carbons)	0.1 g
DLM-11095	1,2-Dioleoyl-*SN*-glycero-3-phosphocholine (dioleoyl-D_{64}, 97%; 50-60% on alpha, vinyl carbons)	50 mg
CLM-8388	Docosahexaenoic acid (DHA) (U-$^{13}C_{22}$, 99%) (may contain 5% docosapentaenoic acid or "DPA")	1 mg, 5 mg
DLM-10012	Docosahexaenoic acid (DHA) (21,21,22,22,22-D_5, 98%)	1 mg, 5 mg
ULM-10013	Docosahexaenoic acid (DHA) (unlabeled)	1 mg, 5 mg
DLM-10015	Docosahexaenoic acid, ethyl ester (DHA ethyl ester) (21,21,22,22,22-D_5, 98%) CP 95%	Please inquire
ULM-10016	Docosahexaenoic acid, ethyl ester (DHA ethyl ester) (unlabeled) CP 95%	Please inquire
CLM-8398	Docosahexaenoic acid, methyl ester (DHA methyl ester) (DHA U-$^{13}C_{22}$, 99%) (may contain 5% docosapentaenoic acid or "DPA")	1 mg, 5 mg
DLM-10014	Docosahexaenoic acid, methyl ester (DHA methyl ester) (21,21,22,22,22-D_5, 98%) CP 97%	1 mg
CLM-9909	Docosanoic acid (1,2,3,4,5,6-$^{13}C_6$, 99%) CP 95%	Please inquire
DLM-9180	Docosanoic acid (22,22,22-D_3, 98%)	Please inquire
DLM-9951	Docosanoic acid (3,3,5,5-D_4, 98%) CP 95%	Please inquire
DLM-10503	Docosanoic acid (12,12,13,13-D_4, 98%)	0.1 g, 0.25 g
DLM-4703	Docosanoic acid (D_{43}, 98%)	Please inquire
DLM-738	*N*-Dodecanol (D_{25}, 98%)	0.5 g, 1 g

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Catalog No.	Description	Unit Size
DLM-2274	Dodecylphosphocholine (D_{38}, 98%)	0.1 mg, 0.5 g
DLM-9720	*cis*-5,8,11,14,17-Eicosapentaenoic acid (19,19,20,20,20-D_5, 98%)	1 mg, 5 mg
ULM-10024	*cis*-5,8,11,14,17-Eicosapentaenoic acid (unlabeled)	1 mg, 5 mg
DLM-10558	Eicosapentaenoic acid, ethyl ester (19,19,20,20,20-D_5, 98%) CP 95%	Please inquire
DLM-10559	*cis*-5,8,11,14,17-Eicosapentaenoic acid, methyl ester (19,19,20,20,20-D_5, 98%) CP 95%	1 mg
DLM-10667	Ethyl hexacosanoate (hexacosanoyl-12,12,13,13-D_4, 98%)	Please inquire
CLM-8274	Ethyl hexanoate (hexanoate-$^{13}C_6$, 99%)	Please inquire
DLM-6013	Ethylmalonic acid (methyl-D_3, 98%)	0.1 g
CLM-11683	*SN*-Glycerol 3-phosphate, disodium salt (glycerol-$^{13}C_3$, 99%) CP 95%	1 mg
DLM-1308	Heptadecanoic acid (methyl-D_3, 98%)	0.1 g
DLM-6905	Heptadecanoic acid (D_{33}, 98%)	0.25 g, 0.5 g
DLM-1820	Heptanoic acid (2,2,3,3-D_4, 98%)	Please inquire
DLM-2731	Heptanoic acid (D_{13}, 98%)	0.5 g
CLM-9790	Hexacosanoic acid (1,2,3,4,5,6-$^{13}C_6$, 99%)	Please inquire
DLM-9953	Hexacosanoic acid (3,3,5,5-D_4, 98%) CP 95%	Please inquire
DLM-8510	Hexacosanoic acid (12,12,13,13-D_4, 98%)	0.1 g
CLM-3519	Hexanoic acid (1-^{13}C, 99%)	0.5 g
DLM-3030	Hexanoic acid (2,2-D_2, 98%)	Please inquire
DLM-612	Hexanoic acid (methyl-D_3, 98%)	0.1 g, 0.5 g, 1 g
DLM-11023	Hexanoic acid (4,4,5,5,6,6,6-D_7, 98%)	Please inquire
DLM-277	Hexanoic acid (D_{11}, 98%)	0.1 g, 1 g
DLM-11424	2-Hexyldecanoic acid (D_{31}, 98%) CP 97%	Please inquire
DLM-2922	DL-3-Hydroxymyristic acid (2,2,3,4,4-D_5, 96%)	Please inquire
CLM-2095	Isovaleric acid (1-^{13}C, 99%)	1 g
CLM-10348	Isovaleric acid (2,3,4-$^{13}C_3$, 3-methyl-^{13}C, 99%)	Please inquire
DLM-2938	Isovaleric acid (D_9, 98%)	Please inquire
CLM-1586	Lauric acid (1-^{13}C, 99%)	1 g, 5 g
DLM-3062	Lauric acid (methyl-D_3, 99%)	0.5 g, 1 g
DLM-563	Lauric acid (D_{23}, 98%)	1 g
CLM-9688	Linoleic acid (18:2) (1-^{13}C, 99%)	1 g
CLM-6855	Linoleic acid (18:2) (U-$^{13}C_{18}$, 98%) (<10% *cis/trans* isomer) CP 94%	0.1 mg, 0.1 g, 0.25 g, 1 g
CLM-2119	Linoleic acid (18:2), ethyl ester (1-^{13}C, 99%)	Please inquire
CLM-3960	Linoleic acid (18:2), ethyl ester (U-linoleate-$^{13}C_{18}$, 98%) CP 95%	0.5 g
DLM-227	Linoleic acid (18:2), ethyl ester (17,17,18,18,18-D_5, 98%)	Please inquire
DLM-766	Linoleic acid (18:2), ethyl ester (D_{31}, 98%) CP 95%	Please inquire
CLM-8395	Linoleic acid (18:2), methyl ester (U-linoleate-$^{13}C_{18}$, 98%) CP 95%	0.1 g, 0.25 g, 1 g
DLM-9663	Linoleic acid (18:2), methyl ester (D_{31}, 98%) CP 95%	Please inquire
CLM-6229	Linoleic acid (18:2), potassium salt (1-^{13}C, 99%)	1 g
CLM-8835	Linoleic acid (18:2), potassium salt (U-$^{13}C_{18}$, 98%) (may have up to 5% isomers) CP 97%	Please inquire
CLM-10487	Linoleic acid (18:2), sodium salt (U-$^{13}C_{18}$, 98%) (may have up to 5% isomers) CP 94%	Please inquire
CLM-8386	Linolenic acid (18:3) (U-$^{13}C_{18}$, 98%) CP 95%	0.1 g
DLM-9348	Linolenic acid (18:3) (17,17,18,18,18-D_5, 98%) CP 90%	0.25 g
DLM-2351	Linolenic acid (18:3), ethyl ester (17,17,18,18,18-D_5, 98%) CP 95%	0.25 g
CLM-8396	Linolenic acid (18:3), methyl ester (linolenate-U-$^{13}C_{18}$, 98%) CP 95%	0.1 g
DLM-10520	Lysophosphatidylcholine 20:0 (eicosanoyl-12,12,13,13-D_4, 98%)	1 mg, 5 mg
ULM-10521	Lysophosphatidylcholine 20:0 (unlabeled)	5 mg, 10 mg
CLM-10499	Lysophosphatidylcholine 22:0 (docosanoyl-1,2,3,4,5,6-$^{13}C_6$, 99%)	1 mg, 5 mg
DLM-10500	Lysophosphatidylcholine 22:0 (docosanoyl-12,12,13,13-D_4, 98%)	1 mg, 5 mg
ULM-10498	Lysophosphatidylcholine 22:0 (unlabeled)	5 mg, 10 mg
CLM-10496	Lysophosphatidylcholine 24:0 (tetracosanoyl-1,2,3,4,5,6-$^{13}C_6$, 99%)	1 mg, 5 mg
DLM-10497	Lysophosphatidylcholine 24:0 (tetracosanoyl-12,12,13,13-D_4, 98%)	1 mg, 5 mg
ULM-10495	Lysophosphatidylcholine 24:0 (unlabeled)	5 mg, 10 mg

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Fatty Acids and Lipids *(continued)*

Catalog No.	Description	Unit Size
CLM-9792	Lysophosphatidylcholine 26:0 (hexacosanoyl-1,2,3,4,5,6-$^{13}C_6$, 99%)	1mg, 5mg
DLM-10501	Lysophosphatidylcholine 26:0 (hexacosanoyl-12,12,13,13-D_4, 98%)	1 mg, 5 mg
ULM-9791	Lysophosphatidylcholine 26:0 (unlabeled)	5 mg, 10 mg
DLM-2960	2-Methylsuccinic acid (D_6, 98%)	1 g
CLM-1844	Myristic acid (1-^{13}C, 99%)	1 g
CLM-3665	Myristic acid (1,2,3-$^{13}C_3$, 99%)	0.5 g
DLM-1039	Myristic acid (methyl-D_3, 98%)	0.1 g
DLM-7487	Myristic acid (13,13,14,14,14-D_5, 98%)	Please inquire
DLM-11024	Myristic acid (12,12,13,13,14,14,14-D_7, 98%)	Please inquire
DLM-208	Myristic acid (D_{27}, 98%)	1 g
CLM-6228	Myristic acid, potassium salt (1-^{13}C, 99%)	Please inquire
CLM-8695	Myristic acid, sodium salt (1,2,3-$^{13}C_3$, 99%)	0.5 g
DLM-11100	1-Myristoyl-2-lyso-*SN*-glycero-3-phosphoglycerol, ammonium salt (myristoyl-D_{27}, 97%; 50-60% at alpha carbon)	100 mg
DLM-11671	*N*-Nervonoyl-D-sphingosine (C24:1 ceramide, d18:1/24:1) (16,16,17,17,18,18,18-D_7, 98%) CP 95%	1 mg
DLM-10367	Nonadecanoic acid (D_{37}, 98%)	Please inquire
CLM-8724	Nonanoic acid (U-$^{13}C_9$, 98%)	Please inquire
DLM-7490	Nonanoic acid (9,9,9-D_3, 98%)	Please inquire
DLM-9501	Nonanoic acid (D_{17}, 98%)	0.5 g, 1 g
DLM-795	*N*-Octadecanol (D_{37}, 98%)	1 g
CLM-293	Octanoic acid (1-^{13}C, 99%)	1 g, 5 g
CLM-3827	Octanoic acid (1,2-$^{13}C_2$, 99%)	Please inquire
CLM-2721	Octanoic acid (1,2,3,4-$^{13}C_4$, 99%)	0.25 g
CLM-3981	Octanoic acid ($^{13}C_8$, 99%)	Please inquire
DLM-619	Octanoic acid (D_{15}, 98%)	1 g
CLM-3707	2-Octanoyl-1,3-distearin (octanoic-1-^{13}C, 99%)	1 g, 10 g
CLM-4258	2-Octanoyl-1,3-distearin (octanoyl-1,2-$^{13}C_2$, 99%)	1 g
ULM-9722	*N*-Octanoyl-D-sphingosine (ceramide d18:1/8:0) (unlabeled)	Please inquire
DLM-6726	*n*-Octyl-β-glucoside (D_{24}, 98%)	0.1 g
CLM-9583	*N*-Oleoyl-D-sphingosine (ceramide d18: 1/18:1 (9z) (oleoyl-U-$^{13}C_{18}$, 99%) CP 95%	0.1 mg, 1 mg
CLM-2492	Oleic acid (methyl-^{13}C, 99%)	0.25 g
CLM-149	Oleic acid (1-^{13}C, 99%)	0.5 g, 1 g
CLM-460	Oleic acid (U-$^{13}C_{18}$, 98%)	0.1 mg, 0.1 g
DLM-689	Oleic acid (9,10-D_2, 97%)	0.1 g
DLM-1891	Oleic acid (D_{33}, 98%)	Please inquire
CLM-3959	Oleic acid, ethyl ester (oleate-U-$^{13}C_{18}$, 98%) CP 95%	1 g
DLM-8747	Oleic acid, ethyl ester (D_{33}, 98%) CP 95%	Please inquire
CLM-4337	Oleic acid, methyl ester (oleate-$^{13}C_{18}$, 98%)	Please inquire
CLM-4477	Oleic acid, potassium salt (1-^{13}C, 99%)	1 g
CLM-8856	Oleic acid, potassium salt (U-$^{13}C_{18}$, 98%) CP 95%	Please inquire
DLM-8837	Oleic acid, potassium salt (15,15,16,16,17,17,18,18,18-D_9, 98%)	Please inquire
CLM-6230	Oleic acid, sodium salt (1-^{13}C, 99%)	Please inquire
CLM-8763	Oleic acid, sodium salt (U-$^{13}C_{18}$, 98%)	Please inquire
ULM-9581	*N*-Oleoyl-D-sphingosine (ceramide d18:1/18:1 (9z) (unlabeled) CP 95%	0.1 mg
NLM-10511	Oleylamine (^{15}N, 98%)	Please inquire
CLM-150	Palmitic acid (1-^{13}C, 99%)	1 g, 5 g, 10 g
CLM-2120	Palmitic acid (2-^{13}C, 99%)	1 g
CLM-214	Palmitic acid (1,2-$^{13}C_2$, 99%)	0.5 g
CLM-7896	Palmitic acid (1,2,3,4-$^{13}C_4$, 99%)	0.1 mg, 1 g
CLM-10926	Palmitic acid (1,2,3,4,5,6-$^{13}C_6$, 99%)	Please inquire
CLM-409	Palmitic acid (U-$^{13}C_{16}$, 98%)	0.01 g, 0.1 g, 0.5 g
DLM-8673	Palmitic acid (12-D, 98%)	Please inquire
DLM-1153	Palmitic acid (2,2-D_2, 98%)	1 g

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Catalog No.	Description	Unit Size
DLM-2890	Palmitic acid (9,9-D_2, 98%)	Please inquire
DLM-2891	Palmitic acid (13,13-D_2, 98%)	0.5 g
DLM-611	Palmitic acid (methyl-D_3, 98%)	0.5 g
DLM-2893	Palmitic acid (7,7,8,8-D_4, 98%)	0.1 g, 0.5 g
DLM-2894	Palmitic acid (11,11,12,12-D_4, 98%)	Please inquire
DLM-9424	Palmitic acid (13,13,14,14,15,15,16,16,16-D_9, 98%)	Please inquire
DLM-2895	Palmitic acid (9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-D_{17}, 98%) CP 97%	0.1 g
DLM-215	Palmitic acid (D_{31}, 98%)	1 g
CLM-3957	Palmitic acid, ethyl ester (palmitate-$^{13}C_{16}$, 98%) CP 95%	1 g
DLM-8793	Palmitic acid, ethyl ester (D_{31}, 98%)	Please inquire
CLM-11289	Palmitic acid, methyl ester (1,2,3,4-$^{13}C_4$, 99%)	Please inquire
CLM-8390	Palmitic acid, methyl ester (palmitate-$^{13}C_{16}$, 98%)	0.25 g, 1 g
CLM-2241	Palmitoleic acid (U-$^{13}C_{16}$, 98%) CP 97%	5 mg, 10 mg
CLM-3958	Palmitoleic acid, ethyl ester (palmitoleate-U-$^{13}C_{16}$, 98%) CP 97%	Please inquire
CLM-8391	Palmitoleic acid, methyl ester (palmitoleate-U-$^{13}C_{16}$, 98%) CP 97%	Please inquire
DLM-11101	1-Palmitoyl-2-lyso-*SN*-glycero-3-phosphoglycerol, ammonium salt (palmitoyl-D_{31}, 97%; 50-60% at alpha carbon)	100 mg
DLM-11096	1-Palmitoyl-2-oleoyl-*SN*-glycero-3-phosphocholine (fatty acids-D_{63}, 97%; 50-60% on alpha, vinyl carbons)	50 mg
CLM-9582	*N*-Palmitoyl-D-sphingosine (C16 ceramide, d18:1/16:0) (palmitoyl-U-$^{13}C_{16}$, 99%) CP 95%	0.1 mg, 1 mg
DLM-11674	*N*-Palmitoyl-D-sphingosine (C16 ceramide, d18:1/16:0) (16,16,17,17,18,18,18-D_7, 98%) CP 95%	1 mg
ULM-9580	*N*-Palmitoyl-D-sphingosine (C16 ceramide, d18:1/16:0) (unlabeled) CP 95%	0.1 mg
DLM-1307	Pentadecanoic acid (methyl-D_3, 98%)	0.1 g
DLM-572	Pentanoic acid (D_9, 98%)	1 g, 5 g
CLM-10700	Pentanoic acid, pentyl ester ($^{13}C_{10}$, 99%) CP 95%	Please inquire
DLM-4341	DL-α-Phosphatidylcholine, dihexanoyl (DHPC) (D_{40}, 98%) CP 95%	0.1 g
CLM-9668	DL-α-Phosphatidylcholine, dipalmitoyl (DPPC) (U-$^{13}C_{40}$, 98%) CP 95%	0.05 g
DLM-8256	DL-α-Phosphatidylcholine, dipalmitoyl (DPPC) (D_{80}, 98%) CP 95%	Please inquire
DLM-6998	Phytanic acid (3-methyl-D_3, 98%) CP 95%	Please inquire
CLM-1889	Potassium palmitate (1-^{13}C, 99%)	1 g
CLM-6865	Potassium palmitate (1,2,3,4-$^{13}C_4$, 99%)	Please inquire
CLM-10942	Potassium palmitate (1,2,3,4,5,6-$^{13}C_6$, 99%)	Please inquire
CLM-3943	Potassium palmitate (U-$^{13}C_{16}$, 98%)	0.5 g
DLM-3773	Potassium palmitate (2,2-D_2, 97%)	1 g
DLM-6199	Potassium palmitate (methyl-D_3, 98%)	Please inquire
DLM-6033	Potassium palmitate (7,7,8,8-D_4, 98%)	0.5 g
DLM-8302	Pristanic acid (2-methyl-D_3, 98%) CP 95%	Please inquire
DLM-10241	Sebacic acid (2,2,9,9-D_4, 98%)	Please inquire
CLM-1256	Sodium butyrate (1-^{13}C, 99%)	1 g, 5 g
CLM-4780	Sodium butyrate (2-^{13}C, 99%)	Please inquire
CLM-10426	Sodium butyrate ($^{13}C_4$, 99%)	0.1 g
DLM-641	Sodium butyrate (3,3,4,4,4-D_5, 98%)	Please inquire
DLM-7616	Sodium butyrate (D_7, 98%)	Please inquire
DLM-197	Sodium dodecyl sulfate (D_{25}, 98%)	1 g
CLM-10897	Sodium isobutyrate ($^{13}C_4$, 99%)	Please inquire
CLM-1948	Sodium octanoate (1-^{13}C, 99%)	1 g, 5 g, 10 × 0.1 g
CLM-3876	Sodium octanoate (1,2,3,4-$^{13}C_4$, 99%)	0.1 g, 0.25 g
CLM-3980	Sodium octanoate (2,4,6,8-$^{13}C_4$, 99%)	Please inquire
CLM-9617	Sodium octanoate (U-$^{13}C_8$, 99%)	Please inquire
CLM-174	Sodium palmitate (1-^{13}C, 99%)	1 g
CLM-6059	Sodium palmitate (U-$^{13}C_{16}$, 98%)	1 g
ULM-9579	Sphingosine (unlabeled) CP 95%	Please inquire

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Fatty Acids and Lipids *(continued)*

Catalog No.	Description	Unit Size
CLM-490	Stearic acid (methyl-^{13}C, 99%)	1 g
CLM-676	Stearic acid (1-^{13}C, 99%)	1 g, 5 g
CLM-6990	Stearic acid (U-$^{13}C_{18}$, 98%) CP 97%	0.25 g
DLM-1154	Stearic acid (methyl-D_3, 98%)	0.1 g, 0.25 g
DLM-2712	Stearic acid (17,17,18,18,18-D_5, 98%)	0.1 g, 0.5 g
DLM-379	Stearic acid (D_{35}, 98%)	1 g
CLM-8731	Stearic acid, ethyl ester (stearate-U-$^{13}C_{18}$, 98%)	Please inquire
CLM-8394	Stearic acid, methyl ester (stearate-U-$^{13}C_{18}$, 98%) CP 95%	0.25 g, 1 g
CLM-6227	Stearic acid, potassium salt (1-^{13}C, 99%)	Please inquire
CLM-10365	Stearic acid, sodium salt (U-$^{13}C_{18}$, 98%) CP 97%	Please inquire
DLM-11672	*N*-Stearoyl-D-sphingosine (C18 ceramide, d18:1/18:0) (d16,16,17,17,18,18,18-D_7, 98%) CP 95%	1 mg
DLM-6143	Suberic acid (2,2,7,7-D_4, 98%)	0.5 g, 1 g
CLM-9932	Tetracosanoic acid (1,2,3,4,5,6-$^{13}C_6$, 99%) CP 96%	Please inquire
DLM-9952	Tetracosanoic acid (3,3,5,5-D_4, 98%) CP 95%	Please inquire
DLM-9179	Tetracosanoic acid (9,9,10,10-D_4, 98%)	Please inquire
DLM-10502	Tetracosanoic acid (12,12,13,13-D_4, 98%)	0.1 g, 0.25 g
DLM-7302	Tetracosanoic acid (D_{47}, 98%)	Please inquire
DLM-11673	*N*-Tetracosanoylsphingosine (C24 ceramide, d18:1/24:0) (16,16,17,17,18,18,18-D_7, 98%) CP 95%	1 mg
DLM-1392	Tridecanoic acid (D_{25}, 98%)	Please inquire
DLM-11086	Triheptanoin (tris(heptanoyl-7,7,7)-D_9, 98%)	Please inquire
CLM-162	Trioctanoin (1,1,1-$^{13}C_3$, 99%)	0.25 g, 0.5 g, 1 g
CLM-163	Triolein (1,1,1-$^{13}C_3$, 99%)	0.1 g, 0.5 g
CLM-8445	Tripalmitin (glyceryl-$^{13}C_3$, 99%)	Please inquire
CLM-164	Tripalmitin (1,1,1-$^{13}C_3$, 99%)	0.25 g, 0.5 g, 1 g
CLM-350	Tripalmitin (2,2,2-$^{13}C_3$, 99%)	0.1 g
CLM-9468	Tripalmitin (1,1,1,2,2,2,3,3,3,4,4,4-$^{13}C_{12}$, 99%)	Please inquire
DLM-9986	Tripalmitin (glyceryl-D_5, 98%)	Please inquire
DLM-9462	Tripalmitin (trispalmitoyl-D_{93}, 98%)	0.5 g
DLM-9044	Tripalmitin (D_{98}, 98%)	Please inquire
DLM-7875	Tristearin (tristearoyl-D_{105}, 98%)	Please inquire
CLM-3399	Valproic acid (1,2,3,3′-$^{13}C_4$, 99%)	Please inquire
DLM-7876	Valproic acid (propyl-1,1-D_2, pentanoic-3,3-D_2, 98%)	Please inquire
DLM-4291	Valproic acid (4,4,4′,4′-D_4, 98%)	0.1 g
DLM-8875	Valproic acid (D_{15}, 98%)	Please inquire

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For research use only. Not for use in diagnostic procedures.

Gases

Calibration Standards

We are pleased to offer four CO_2 standards for use in ^{13}C-urea breath analysis. These gas calibration standards are designed to mimic $^{13}CO_2$ levels in normal breath (baseline calibrant) and at three enriched levels (low-, mid-, and high-level calibrants). Each is gravimetrically prepared and analyzed for ^{13}C content by isotope ratio mass spectrometry (IRMS). The ^{13}C content for the baseline standard is expressed as delta value vs. PDB (Pee Dee Belemnite), with the enriched calibrant gases additionally reported as delta value above baseline (see lot-specific CoA for details). Please visit **isotope.com** for a complete listing of high-purity gases and mixtures.

Catalog No.	Description*	Unit	Stock Packaging
CLM-10584	5% CO_2 in air baseline calibrant gas	10 L, 50 L	CODE C or G
CLM-10585	5% CO_2 in air low-level calibrant gas	10 L, 50 L	CODE C or G
CLM-10586	5% CO_2 in air mid-level calibrant gas	10 L, 50 L	CODE C or G
CLM-10587	5% CO_2 in air high-level calibrant gas	10 L, 50 L	CODE C or G

Glycan Standards

CIL is pleased to offer high-quality glycan standards, available in ^{13}C-labeled and unlabeled forms. These are provided as purified powders and packaged in self-standing, microcentrifuge tubes in 500 pmol quantities. Please visit **isotope.com** for a complete listing of available glycans.

INLIGHT® Glycan Tagging Kit

Catalog No.	Description	Amount
GTK-1000	INLIGHT® Glycan Tagging Kit	1 kit

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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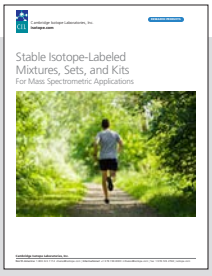
Metabolomics Mixtures and Kits

Metabolomics is an increasingly important and growing area of research. The use of stable isotopes (as internal standards), in combination with analytical techniques such as mass spectrometry, allow researchers to identify and quantify metabolites in a given biological sample. This information can be used to better understand disease mechanisms, evaluate drug responses, and assess putative biomarkers, amongst other targeted applications. To help facilitate such initiatives, CIL is pleased to offer a variety of mixes and kits. These are designed to aid ease of use in untargeted and targeted metabolomics exercises (e.g., in quantification, qualification, quality control, system suitability). The mixtures are offered neat or as solutions, while the kits are additionally supplied with a user manual. The manuals outline general procedures and processing tables (i.e., platform parameters and conditions), as well as alternate method suggestions and data analysis guides for user reference. Supplemental figures and references in the user manuals provide additional user support.

Catalog No.	Description	Unit Size
ISO1	Metabolite Yeast Extract (U-^{13}C, 99%)	1 kit
ISO1-KIT	Metabolite Yeast Extract Kit	1 kit
L-ISO1	Crude Lipid Yeast Extract (U-^{13}C, 99%)	1 kit
MSK-A2	Metabolomics Amino Acid Mix	1.2 mL
MSK-CAA	Canonical Amino Acid Mix	1 vial
MSK-NCAA	Non-canonical Amino Acid Mix	1 vial
MSK-CNCAA	Canonical/Non-canonical Amino Acid Mix Sets	2 × 1 vial
NSK-BCAA	Branched-chain Amino Acid Standards Mix	1 vial
MSK-BA1	Bile Acid Standard Mix 1 – Unconjugated	1 vial
MSK-BA2	Bile Acid Standard Mix 2 – Conjugated	1 vial
MSK-BA-A	Bile Acid Standards Mix Sets 1 and 2	2 × 1 vial
MSK-BA1-25X	Bile Acid Standard Mix 1 (25X) – Unconjugated	1 vial
MSK_BA2-20X	Bile Acid Standard Mix 2 (20X) – Conjugated	1 vial
MSK-BA3	Bile Acid Standards Mix 3 – Unconjugated Sulfates	1 vial
MSK-BA4	Bile Acid Standards Mix 4 – Conjugated Sulfates	1 vial
MSK-CRED-DD-KIT	Credentialed *E. coli* Cell Extract Kit (dried down)	1 kit
MSK-CRED-KIT	Credentialed *E. coli* Cell Extract Kit (solution)	1 kit
MSK-MET1	Metabolomics Standards Mix 1	1 vial
MSK-MSM1	Metabolomics Screening and Monitoring Standards Mix 1	1 vial
MSK-QC1	Metabolomics QC Standards Mix 1	1 vial
MSK-QC2	Metabolomics QC Standards Mix 2	1 vial
MSK-QC-KIT	Metabolomics QC Kit	1 kit
MSK-QCMSI-KIT	Metabolomics QC Kit for MSI	1 kit
MSK-QReSS1	Metabolomics QReSS™ Standards Mix 1	1 vial
MSK-QReSS2	Metabolomics QReSS™ Standards Mix 2	1 vial
MSK-QReSS-KIT	Metabolomics QReSS™ Kit	1 kit
MSK-OA	Organic Acid Mix	1 vial
MSK-SBCFA	Short-/Branched-chain Fatty Acid Mix	1 vial
MSK-TCA1	TCA Cycle Standards Mix 1	1 vial
MSK-TCA2-A	TCA Cycle Standards Mix 2A	1 vial
MSK-TCA-A	TCA Cycle Standards Mix Sets 1 and 2A	2 × 1 vial

Companion unlabeled standard mixes and kits are also available; please inquire.



For complete product details, click on the thumbnail to download the catalog or visit the **Metabolomics Mixtures and Kits application page** at isotope.com.

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Mouse Feeds

The study of animal models, using a metabolic labeling technique called SILAM (stable isotope labeling of mammals), can provide useful insight into human disease. To help facilitate this branch of research, CIL offers labeled/unlabeled Mouse Express® mouse feeds in their irradiated and nonirradiated form. Consumption of an isotope-enriched chow enables metabolically labeling of an entire mouse proteome with an isotopically labeled compound. Traditionally, the feeds incorporate isotopically labeled canonical (e.g., lysine, leucine, valine) and/or non-canonical (e.g., azidohomoalanine) amino acids, with labeling on individual or multiple isotopes (e.g., NeuCode™ lysine). Diets that comprise ^{15}N and unlabeled feed prepared with spirulina are also available. For expanded research opportunities, the labeled feed can be packaged together in a kit with the unlabeled in standard units of 1 kg. Please see the **SILAM application page** for product details and **isotope.com** for product inquiries.

Mouse Express

Catalog No.	Description	Concentration	Unit Size
MF-AHA	Mouse Express AHA Mouse Feed	neat	Please inquire
MF-HAHA	Mouse Express hAHA Mouse Feed	neat	Please inquire
MLK-HAHA-KIT	Mouse Express hAHA Mouse Feed Kit	neat	1 kit
MF-LEU-D3	Mouse Express L-Leucine (5,5,5-D_3, 99%) Mouse Feed	neat	Please inquire
MF-LEU-UNLABELED	Mouse Express L-Leucine (unlabeled) Mouse Feed	neat	Please inquire
MLK-LEU-D3	Mouse Express L-Leucine Mouse Feed Kit	neat	1 kit
MF-LEU-D3-IR	Mouse Express L-Leucine (5,5,5-D_3, 99%) Irradiated Mouse Feed	neat	Please inquire
MF-LEU-D3-IR-UNLABELED	Mouse Express L-Leucine (unlabeled) Irradiated Mouse Feed	neat	Please inquire
MLK-LEU-D3-IR	Mouse Express L-Leucine Irradiated Mouse Feed Kit	neat	1 kit
MF-LYS-C	Mouse Express L-Lysine ($^{13}C_6$, 99%) Mouse Feed	neat	Please inquire
MF-LYS-C-UNLABELED	Mouse Express L-Lysine (unlabeled) Mouse Feed	neat	Please inquire
MLK-LYS-C	Mouse Express L-Lysine Mouse Feed Kit	neat	1 kit
MF-LYS-C-IR	Mouse Express L-Lysine ($^{13}C_6$, 99%) Irradiated Mouse Feed	neat	Please inquire
MF-LYS-C-IR-UNLABELED	Mouse Express L-Lysine (unlabeled) Irradiated Mouse Feed	neat	Please inquire
MLK-LYS-C-IR	Mouse Express L-Lysine Irradiated Mouse Feed Kit	neat	1 kit
MF-LYS-NEU2	Mouse Express L-Lysine 2-plex NeuCode Mouse Feed	neat	1-week kit or 3-week kit
MF-UNLABELED-MET	Mouse Express (unlabeled) Mouse Feed	neat	Please inquire
MF-TYR-C-IR	Mouse Express® L-Tyrosine ($^{13}C_9$, 99%) Irradiated Mouse Feed	neat	1 kg
MF-UNLABELED-TYR-IR	Mouse Express® L-Tyrosine Irradiated Mouse Feed (unlabeled)	neat	1 kg
MLK-TYR-C-IR	Mouse Express® L-Tyrosine ($^{13}C_9$, 99%) Irradiated Mouse Feed Kit	neat	1 kit

NeuCode is a trademark of WARF.
Mouse Express is a registered trademark of Cambridge Isotope Laboratories, Inc.

Spirulina and Mouse Express (prepared with Spirulina)

Catalog No.	Description	Concentration	Unit Size
CLM-8400	Spirulina Whole Cells (U-^{13}C, 97%)	neat	1 g
NLM-8401	Spirulina Whole Cells (U-^{15}N, 98%)	neat	1 g
ULM-8453	Spirulina Whole Cells (unlabeled)	neat	Please inquire
MF-Spirulina-N	Mouse Express (^{15}N, 98%) Mouse Feed	neat	Please inquire
MF-Spirulina-U	Mouse Express (unlabeled) Mouse Feed	neat	Please inquire
MLK-Spirulina-N	Mouse Express (^{15}N, 98%) Mouse Feed Kit	neat	1 kit
MF-Spirulina-N-IR	Mouse Express (^{15}N, 98%) Irradiated Mouse Feed	neat	Please inquire
MF-Spirulina-U-IR	Mouse Express (unlabeled) Irradiated Mouse Feed	neat	Please inquire
MLK-Spirulina-N-IR	Mouse Express (^{15}N, 98%) Irradiated Mouse Feed Kit	neat	1 kit

Custom feeds can be prepared upon request; please inquire.

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MS/MS Screening Mixtures and Standards

The utility of stable isotope-labeled standards for MS/MS screening is gaining traction worldwide. To support such research endeavors and enhance method adoption, CIL is pleased to offer a breadth of high-quality, stable isotope-labeled mixtures. These mixes contain a collection of stable isotope-labeled standards (e.g., 12 amino acids in NSK-A) and are class-specific (e.g., amino acids, carnitine/acylcarnitines, steroids). These are available in 10-vial sets or single vials and are suitable for metabolite quantification in isotope dilution MS (IDMS) experiments. Also listed here are example individual standards used in MS/MS screening research.

Mixtures and Sets

Catalog No.	Description	Unit Size
NSK-A	Amino Acid Standards Mix A	1 vial, 10 vials
NSK-A1	Amino Acid Standards Mix A1	1 vial, 10 vials
NSK-AA3	3-Plex Amino Acid Standards Mix	1 vial, 10 vials
NSK-AA3-10X	3-Plex Amino Acid Standards Mix (10X)	1 vial, 10 vials
NSK-B	Carnitine/Acylcarnitine Standards Mix B	1 vial, 10 vials
NSK-B-G1	Acylcarnitine Standards Mix 1 Supplement to NSK-B	1 vial, 10 vials
NSK-AB	Standards Mix Sets A and B	2 × 10 vials
NSK-BCAA	Branched-chain Amino Acid Standards Mix	1 vial
NSK-NI	Acid Sphingomyelinase Substrate and Internal Standards Set	1 vial
NSK-KR	Galactocerebrosidase Substrate and Internal Standards Set	1 vial
NSK-FA	α-Galactosidase Substrate and Internal Standards Set	1 vial
NSK-GA	Glucocerebrosidase Substrate and Internal Standards Set	1 vial
NSK-MP	α-L-Iduronidase Substrate and Internal Standards Set	1 vial
NSK-PO	Acid α-Glucosidase Substrate and Internal Standards Set	1 vial
NSK-LPC	Lysophosphatidylcholine Mix	1 vial
NSK-S	Steroid Standards Mix S	1 vial, 10 vials
NSK-S-40X	Steroid Standards Mix S (40X)	1 vial
NSK-S-EXP	Expanded Steroid Standards Mix S	1 vial, 10 vials

Companion unlabeled standard mixes are also available; please inquire.

Individual Standards (Examples)

Catalog No.	Description	Unit Size
CLM-3777	*N*-Acetylglycine (2-^{13}C, 99%)	Please inquire
CLM-3678	Adenosine (ribose-$^{13}C_5$, 98%) CP 97%	0.05 g, 0.1 g
CLM-8755	β-Alanine (3-^{13}C, 99%)	Please inquire
CLM-8756	β-Alanine ($^{13}C_3$, 99%)	Please inquire
NLM-1656	β-Alanine (^{15}N, 98%)	0.25 g
CNLM-3440	β-Alanine (3-^{13}C, 99%; ^{15}N, 98%)	Please inquire
CNLM-8457	β-Alanine (1,2-$^{13}C_2$, 99%; ^{15}N, 98%)	Please inquire
CNLM-3946	β-Alanine ($^{13}C_3$, 98%; ^{15}N, 96%)	0.25 g
CNLM-9007-CA	L-Argininosuccinic acid, barium salt·2H_2O (arginine-$^{13}C_6$, 99%; $^{15}N_4$, 99%) CP 90%	0.1 mg, 0.5 mg
ULM-9008-CA	L-Argininosuccinic acid, barium salt·3H_2O (unlabeled) CP 90%	0.1 mg
ULM-10431	DL-Carnitine·HCl, *O*-acetyl (unlabeled)	Please inquire
ULM-10703	DL-Carnitine·HCl, *O*-butyrl (unlabeled)	Please inquire
ULM-10704	DL-Carnitine·HCl, *O*-isovaleryl (unlabeled)	Please inquire
ULM-10705	DL-Carnitine·HCl, *O*-myristoyl (unlabeled)	Please inquire
ULM-10432	DL-Carnitine·HCl, *O*-octanoyl (unlabeled)	Please inquire
ULM-10433	DL-Carnitine·HCl, *O*-palmitoyl (unlabeled) CP 97%	Please inquire
ULM-10702	DL-Carnitine·HCl, *O*-propionyl (unlabeled)	Please inquire
DLM-11049	L-Carnitine·ClO_4, *O*-malonyl (*N*-methyl-D_3, 98%)	Please inquire
DLM-10962	L-Carnitine·HCl (trimethyl-D_9, 98%)	5 mg
DLM-9067	L-Carnitine·HCl, *O*-decanoyl (*N*-methyl-D_3, 98%)	0.1 mg
DLM-8162	L-Carnitine·HCl, *O*-dodecanoyl (*N*-methyl-D_3, 98%)	0.1 mg
DLM-9276	L-Carnitine·HCl, *O*-hexanoyl (*N*-methyl-D_3, 98%)	0.1 mg
ULM-7198	L-Carnitine·HCl, *O*-hexanoyl (unlabeled)	Please inquire
DLM-6718	L-Carnitine·HCl, *O*-hexacosanoyl (*N*-methyl-D_3, 98%) CP 95%	Please inquire

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Catalog No.	Description	Unit Size
CLM-7933	Creatine (guanidino-^{13}C, 99%)	0.1 g
DLM-1302	Creatine (methyl-D_3, 98%) CP 97%	0.25 g
DLM-3653	Creatinine (*N*-methyl-D_3, 98%)	0.1 g
CLM-4579	2′-Deoxyadenosine·H_2O (ribose-$^{13}C_5$, 99%)	Please inquire
CLM-7686	2′-Deoxyguanosine·H_2O (ribose-1-^{13}C, 98%)	Please inquire
DLM-7687	2′-Deoxyguanosine·H_2O (ribose-5,5-D_2, 98%)	0.05 g, 0.1 g
NLM-3899-CA	2′-Deoxyguanosine·H_2O ($^{15}N_5$, 98%) CP 95%	5 mg, 10 mg, 25 mg
CNLM-3900-CA	2′-Deoxyguanosine·H_2O ($^{13}C_{10}$, 98%; $^{15}N_5$, 96%)	5 mg, 10 mg, 25 mg
DLM-6013	Ethylmalonic acid (methyl-D_3, 98%)	0.1 g
CLM-744	D-Galactose (1-^{13}C, 99%)	0.25 g, 0.5 g, 1 g
CLM-4217	D-Galactose (1,2-$^{13}C_2$, 99%)	Please inquire
CLM-1570	D-Galactose (U-$^{13}C_6$, 99%)	0.1 g
DLM-9308	D-Galactose (6,6'-D_2, 97%)	Please inquire
CLM-1822-H	L-Glutamine ($^{13}C_5$, 99%)	0.1 mg, 0.01 g, 0.1 g, 0.25 g, 0.5 g, 1 g
DLM-1826	L-Glutamine (2,3,3,4,4-D_5, 97%)	0.1 g
CNLM-1275	L-Glutamine ($^{13}C_5$, 99%; $^{15}N_2$, 99%)	0.1 g, 0.25 g, 0.5 g
CLM-1017	Glycine (1,2-$^{13}C_2$, 97- 99%)	0.5 g, 1 g, 5g
DLM-280	Glycine (D_5, 98%)	5 g
NLM-202	Glycine (^{15}N, 98%)	1 g, 5 g
CNLM-8111	*N*-(3-Methylcrotonyl)glycine (glycine-$^{13}C_2$, 98%; ^{15}N, 98%)	Please inquire
DLM-9715	*N*-(3-Phenylpropionyl)glycine (2,2,-D_2, 98%)	Please inquire
DLM-9998	Guanidinoacetic acid (2,2-D_2, 97%)	Please inquire
CLM-7688	Guanosine·H_2O (ribose-1-^{13}C, 98%)	0.05 g, 0.1 g
DLM-7689	Guanosine·H_2O, (ribose-5,5-D_2, 98%)	0.05 g, 0.1 g
CNLM-3808-CA	Guanosine·H_2O ($^{13}C_{10}$, 98%; $^{15}N_5$, 96%)	5 mg, 10 mg, 25 mg
CNLM-8448	*N*-Hexanoylglycine ($^{13}C_2$, 97%; ^{15}N, 97%) CP 95%	Please inquire
NLM-4649	L-Histidine (ring-ε-^{15}N, 98%) (<5% D)	Please inquire
NLM-4457	L-Histidine (ring-π-^{15}N, 98%) (<5% D)	Please inquire
NLM-9585	L-Histidine (ring-$^{15}N_2$, 98%)	Please inquire
DLM-3619	DL-Homocystine (3,3,3′,3′,4,4,4′,4′-D_8, 98%)	0.1 g, 0.5 g, 1 g
NLM-4264	Inosine ($^{15}N_4$, 95%)	0.01 g, 0.05 g
CLM-8742	L-allo-Isoleucine ($^{13}C_6$, 97%)	Please inquire
DLM-1505	L-allo-Isoleucine (D_{10}, 98%)	0.1 g
CNLM-9291	*N*-Isovalerylglycine (glycine-$^{13}C_2$, 99%; ^{15}N, 99%)	Please inquire
CLM-2247-H	L-Lysine·2HCl ($^{13}C_6$, 99%)	0.05 g, 0.1 g, 0.25 g, 0.5 g, 1 g
DLM-2640	L-Lysine·2HCl (4,4,5,5-D_4, 96%)	0.1 g, 0.25 g, 0.5 g, 1 g
NLM-143	L-Lysine·2HCl (α-^{15}N, 95%)	0.25 g, 1 g
DLM-10520	Lysophosphatidylcholine 20:0 (eicosanoyl-12,12,13,13-D_4, 98%)	1 mg, 5 mg
ULM-10521	Lysophosphatidylcholine 20:0 (unlabeled)	5 mg, 10 mg
CLM-10499	Lysophosphatidylcholine 22:0 (docosanoyl-1,2,3,4,5,6-$^{13}C_6$, 99%)	1 mg, 5 mg
DLM-10500	Lysophosphatidylcholine 22:0 (docosanoyl-12,12,13,13-D_4, 98%)	1 mg, 5 mg
ULM-10498	Lysophosphatidylcholine 22:0 (unlabeled)	5 mg, 10 mg
CLM-10496	Lysophosphatidylcholine 24:0 (tetracosanoyl-1,2,3,4,5,6-$^{13}C_6$, 99%)	1 mg, 5 mg
DLM-10497	Lysophosphatidylcholine 24:0 (tetracosanoyl-12,12,13,13-D_4, 98%)	1 mg, 5 mg
ULM-10495	Lysophosphatidylcholine 24:0 (unlabeled)	5 mg, 10 mg
CLM-9792	Lysophosphatidylcholine 26:0 (hexacosanoyl-1,2,3,4,5,6-$^{13}C_6$, 99%)	1 mg, 5 mg
DLM-10501	Lysophosphatidylcholine 26:0 (hexacosanoyl-12,12,13,13-D_4, 98%)	1 mg, 5 mg
ULM-9791	Lysophosphatidylcholine 26:0 (unlabeled)	5 mg, 10 mg
CLM-10350	2-Methylbutyric acid (methyl-^{13}C, 99%)	Please inquire
DLM-2312	DL-2-Methylcitric acid (methyl-D_3, 98%) CP 90%	5 mg, 10 mg
CLM-9426	Methylmalonic acid ($^{13}C_4$, 99%)	0.1 g
DLM-387	Methylmalonic acid (methyl-D_3, 98%)	0.25 mg
ULM-10578	Methylmalonic acid, disodium salt (unlabeled) CP 95%	Please inquire

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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MS/MS Screening Mixtures and Standards *(continued)*

Catalog No.	Description	Unit Size
DLM-2960	2-Methylsuccinic acid (D_6, 98%)	1 g
NLM-1048	Orotic acid·H_2O (1,3-$^{15}N_2$, 98%)	0.25 mg
CLM-10604	Phenylpyruvic acid, sodium salt ($^{13}C_9$, 99%)	Please inquire
CLM-7944	3-(3-Methyl-1H-pyrazol-5-yl)propanoic acid (MPP) (methyl-^{13}C, pyrazolyl-$^{13}C_3$, 3-^{13}C, 99%)	0.1 mg
CNLM-9292	*N*-Propionylglycine (glycine-$^{13}C_2$, 99%; ^{15}N, 99%)	Please inquire
CLM-510	L-Proline (1-^{13}C, 99%)	0.25 g
CLM-2260-H	L-Proline ($^{13}C_5$, 99%)	0.1 g, 0.25 g, 0.5 g
DLM-487	L-Proline (D_7, 97%)	0.1 g, 0.25 g
NLM-835	L-Proline (^{15}N, 98%)	0.25 g, 0.5 g
CNLM-7822	L-Proline (1-^{13}C, 99%; ^{15}N, 98%)	Please inquire
CNLM-436-H	L-Proline ($^{13}C_5$, 99%; ^{15}N, 99%)	0.1 g, 0.25 g, 0.5 g
DNLM-7562	L-Proline (D_7, 98%; ^{15}N, 98%)	0.25 g
CDNLM-6812	L-Proline ($^{13}C_5$, 97%; D_7, 97%; ^{15}N, 97%)	0.25 g
ULM-8333	L-Proline (unlabeled)	0.05 g, 0.1 g
CLM-646	Propionic acid (1-^{13}C, 99%)	1 g
CLM-647	Propionic acid ($^{13}C_3$, 99%)	1 g
DLM-2488	Propionic acid (2,2-D_2, 98%)	1 g, 5 g
DLM-1137	Propionic acid (methyl-D_3, 98%)	5 g
DLM-1919	Propionic acid (D_5, 98%)	5 g
DLM-599	Propionic acid (D_6, 98%)	Please inquire
CLM-1036	L-Ornithine·HCL (1,2-$^{13}C_2$, 99%)	0.1 g
CLM-4724	L-Ornithine·HCL ($^{13}C_5$, 98%)	0.1 g
DLM-2969	L-Ornithine·HCL (3,3,4,4,5,5-D_6, 98%)	0.1 g, 0.25 g
NLM-3610	L-Ornithine·HCL ($^{15}N_2$, 98%)	0.25 g
NLM-1072	Sarcosine (^{15}N, 98%)	Please inquire
CNLM-8183	Suberylglycine (glycine-$^{13}C_2$, 98%; ^{15}N, 98%) CP 95%	Please inquire
NSK-T	Succinylacetone Standards Set T	1 vial, 10 vials
NSK-T-US	Succinylacetone Standards Set T (unlabeled)	1 vial
DLM-10502	Tetracosanoic acid (12,12,13,13-D_4, 98%)	0.1 g, 0.25 g
CLM-2261	L-Threonine ($^{13}C_4$, 97%)	0.1 g, 0.25 g, 0.5 g
DLM-1693	L-Threonine (D_5, 98%)	0.1 g
NLM-742	L-Threonine (^{15}N, 98%)	0.25 g, 0.5 g
CNLM-587	L-Threonine ($^{13}C_4$, 97%; ^{15}N, 97%)	0.1 g, 0.25 g, 0.5 g
CLM-6725	L-Thyroxine (tyrosine-ring-$^{13}C_6$, 99%) CP 90%	0.1 mg
CLM-8931	L-Thyroxine (ring-$^{13}C_{12}$, 99%) CP 97%	0.1 mg
ULM-8184	L-Thyroxine (unlabeled)	0.2 mg
DLM-10758	Trisodium 2-methylcitrate (methyl-D_3, 98%) CP 90% (racemic mixture of diastereomers)	5 mg, 10 mg
ULM-10510	Trisodium 2-methylcitrate (unlabeled) CP 90% (racemic mixture of diastereomers)	Please inquire
CLM-716	L-Tryptophan (indole-3-^{13}C, 95%)	0.25 g
CLM-4290-H	L-Tryptophan ($^{13}C_{11}$, 99%)	0.1 g
DLM-6903	L-Tryptophan (D_8, 97%)	0.25 g
NLM-800	L-Tryptophan ($^{15}N_2$, 98%)	0.25 g, 0.5 g

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
For research use only. Not for use in diagnostic procedures.

Neurotransmitters and Their Metabolites

Neurotransmitters are small chemicals in the central nervous system that modulate and regulate brain function. Signals are relayed from neuron to neuron by release, upon stimulation, from a synaptic vesicle into a space where it can bind to a receptor. These molecules can be grouped into several classes, such as catecholamines (e.g., dopamine, epinephrine) and indolamines (e.g., melatonin, serotonin). MS analysis of neurotransmitters in human biosamples, such as urine, is a clinically relevant area as they mediate homeostatic function, modulate neural activity, and have been correlated to the pathogenesis of neurodegenerative diseases (e.g., Alzheimer's).

CIL offers an array of stable isotope-labeled neurotransmitters. These research-grade materials are available in their solution and/or neat form.

Catecholamines

Catalog No.	Description	Unit Size
CLM-3368	Dopamine·HCl (2-(3,4-dihydroxyphenyl) ethylamine·HCl) (1-^{13}C, 99%)	0.01 g, 0.05 g
CLM-9926	Dopamine·HCl (2-(3,4-dihydroxyphenyl) ethylamine·HCl) (2-^{13}C, 99%)	Please inquire
CLM-3369	Dopamine·HCl (2-(3,4-dihydroxyphenyl) ethylamine·HCl) (ring-$^{13}C_6$, 99%)	Please inquire
DLM-2833	Dopamine·HCl (2-(3,4-dihydroxyphenyl) ethylamine·HCl) (1,1-D_2, 93%) CP 96%	Please inquire
DLM-2834	Dopamine·HCl (2-(3,4-dihydroxyphenyl) ethylamine·HCl) (2,2-D_2, 97%)	0.01 g, 0.1 g
DLM-2181	Dopamine·HCl (2-(3,4-dihydroxyphenyl) ethylamine·HCl) (ring-D_3, 98%)	0.1 g
DLM-2498	Dopamine·HCl (2-(3,4-dihydroxyphenyl) ethylamine·HCl) (1,1,2,2-D_4, 97%)	0.01 g, 0.1 g
DLM-2290	Dopamine·HCl (2-(3,4-dihydroxyphenyl) ethylamine·HCl) (ring-D_3, 95%; 2,2-D_2, 95%) CP 95%	0.05 g, 0.1 g
CNLM-3445	Dopamine·HCl (2-(3,4-dihydroxyphenyl) ethylamine·HCl) (1-^{13}C, 99%; ^{15}N, 99%)	Please inquire
DLM-9088	DL-Epinephrine (ring-D_3, 1,2,2-D_3, 98%)	Please inquire
CNLM-7889	DL-Epinephrine (1,2-$^{13}C_2$, 99%; ^{15}N, 98%)	10 mg
DLM-8820	DL-Norepinephrine (noradrenaline)·HCl (ring-D_3,1,2,2-D_3, 99%)	5 mg, 10 mg

Indolamines

Catalog No.	Description	Unit Size
DLM-7101	Melatonin (acetyl-D_3, 98%)	5 mg, 10 mg
DLM-11030	Serotonin (5-HT)·HCl ($\alpha,\alpha,\beta,\beta$-$D_4$, 98%) CP 96%	Please inquire

Other Compounds

Catalog No.	Description	Unit Size
DLM-11620	Acetylcholine chloride (*N,N,N*-trimethyl-D_9, 98%)	Please inquire
DLM-11029	*N*-Acetyl-5-hydroxytryptamine (*N*-acetylserotonin) (acetyl-D_3, 98%)	Please inquire
CLM-8666	γ-Aminobutyric acid (GABA) ($^{13}C_4$, 97%)	0.05 g, 0.1 g
DLM-7760	γ-Aminobutyric acid (GABA) (2,2,3,3,4,4-D_6, 98%)	Please inquire
CLM-548	Choline chloride (1,2-$^{13}C_2$, 99%)	0.1 g
DLM-549	Choline chloride (trimethyl-D_9, 98%)	1 g
DLM-2499	3,4-Dihydroxyphenylacetic acid (ring-D_3, 2,2-D_2, 98%)	0.01 g, 0.1 g
CLM-3632	DL-Glutamic acid (3-^{13}C, 99%)	Please inquire
DLM-335	DL-Glutamic acid (2,4,4-D_3, 98%)	1 g
DLM-357	DL-Glutamic acid (2,3,3,4,4-D_5, 97%)	0.25 g
CLM-674	L-Glutamic acid (1-^{13}C, 99%)	1 g
CLM-2474	L-Glutamic acid (2-^{13}C, 99%)	Please inquire
CLM-4742	L-Glutamic acid (3-^{13}C, 99%)	Please inquire
CLM-2431	L-Glutamic acid (4-^{13}C, 98%)	Please inquire
CLM-613	L-Glutamic acid (5-^{13}C, 99%)	0.1 g
CLM-2024	L-Glutamic acid (1,2-$^{13}C_2$, 99%)	0.25 g
CLM-3646	L-Glutamic acid (3,4-$^{13}C_2$, 99%)	0.25 g
CLM-1800-H	L-Glutamic acid ($^{13}C_5$, 99%)	0.1 mg, 0.25 g, 0.5 g, 1 g
DLM-3725	L-Glutamic acid (2,4,4-D_3, 97%)	0.5 g
DLM-556	L-Glutamic acid (2,3,3,4,4-D_5, 98%)	0.05 g, 0.1 g
NLM-135	L-Glutamic acid (^{15}N, 98%)	0.5 g, 1 g
CNLM-7812	L-Glutamic acid (1-^{13}C, 99%; ^{15}N, 98%)	0.25 g
CNLM-554-H	L-Glutamic acid ($^{13}C_5$, 99%; ^{15}N, 99%)	0.25 g, 0.5 g, 1 g

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Neurotransmitters and Their Metabolites *(continued)*

Catalog No.	Description	Unit Size
DNLM-6996	L-Glutamic acid (2,3,3,4,4-D_5, 98%; ^{15}N, 98%)	0.25 g, 0.5 g
CDNLM-6804	L-Glutamic acid ($^{13}C_5$, 97%; D_5, 97%; ^{15}N, 97%)	0.25 g
ULM-8675	L-Glutamic acid (unlabeled)	0.1 mg
CLM-6664	L-Glutamic acid, *N*-acetyl (glutamate-$^{13}C_5$, 97%)	Please inquire
CLM-3721	DL-Glutamic acid·H_2O (1-^{13}C, 99%)	1 g
OLM-8028	L-Glutamic acid·HCl ($^{17}O_4$, ~30%)	Please inquire
CLM-11041	4-(aminobutyl)Guanidine sulfate (butyl-$^{13}C_4$, 98%) CP 95%	Please inquire
DLM-2911	Histamine·2HCl ($\alpha,\alpha,\beta,\beta$-$D_4$, 98%)	10 mg
CLM-373	Homovanillic acid (1,2-$^{13}C_2$, 98%)	0.1 g
DLM-2738	Homovanillic acid (phenyl-D_3, 2,2-D_2, 96%)	0.1 g
COLM-376	Homovanillic acid (ring-$^{13}C_6$, 99%; 4-hydroxy-^{18}O, 90%)	0.01 g
CLM-10900	Homovanillic acid, sodium salt (1,2-$^{13}C_2$, 98%)	Please inquire
ULM-10577	Homovanillic acid, sodium salt (unlabeled)	Please inquire
CLM-9936-1.2	5-Hydroxyindole-3-acetic acid (3α,4,5,6,7,7α-$^{13}C_6$, 98%)	1.2 mL
ULM-11111-1.2	5-Hydroxyindole-3-acetic acid (unlabeled)	1.2 mL
CLM-1896	Indole-3-acetic acid (IAA) (phenyl-$^{13}C_6$, 99%)	0.01 g
DLM-3560	DL-Metanephrine·HCl (α,β,β-D_3, 98%)	5 mg, 10 mg
DLM-2950	*N*-τ-Methylhistamine·2HCl (*N*-methyl-D_3, 98%)	0.1 g
DLM-8609	DL-Normetanephrine·HCl (α,β,β-D_3, 98%)	5 mg, 10 mg
DLM-2993	2-Phenylethylamine (2,2-D_2, 95%)	Please inquire
CLM-6622	Taurine (1,2-$^{13}C_2$, 98%)	0.25 g, 0.5 g
DLM-8057	Taurine (D_4, 98%) CP 95%	0.1 g, 0.25 g
NLM-4472	Taurine (^{15}N, 98%)	Please inquire
CNLM-10253	Taurine ($^{13}C_2$, 99%; ^{15}N, 98%)	0.01 g
DLM-8075	Tyramine·HCl (1,1,2,2-D_4, 98%)	Please inquire
DLM-4794	DL-Vanilmandelic acid (VMA) (ring-D_3, 98%)	0.1 g

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Nucleic Acids

Nucleic acids are necessary biomolecules of living systems, being fundamentally important to a multitude of cellular processes. Its basic building blocks are nucleobases (e.g., adenine, cytosine, xanthine), nucleosides (e.g., adenosine, guanosine, inosine), and nucleotides (e.g., ATP, CMP, dGTP). The qualification/quantification of these compounds, and their synthetic analogues (e.g., 5-fluorouracil), in biosamples is performed preclinically and clinically to address a number of purposes. This includes the screening of metabolic errors and the efficacy evaluation of drug treatments (be it anticancer, antiviral, or immunosuppressive), among other target areas.

CIL offers an array of stable isotope-labeled nucleic acid building blocks for MS- or NMR-based research. These standards are available in a variety of labeling patterns and quantities.

Catalog No.	Description	Unit Size
CLM-1654	Adenine (8-^{13}C, 95%)	0.5 g
NLM-6924	Adenine·HCl·½H_2O ($^{15}N_5$, 98%)	10 mg
CLM-3698	Adenosine (ribose-2-^{13}C, 99%)	Please inquire
CLM-3678	Adenosine (ribose-$^{13}C_5$, 98%) CP 97%	0.05 g, 0.1 g
DLM-7676	Adenosine (ribose-1-D, 98%)	Please inquire
DLM-7677	Adenosine (ribose-2-D, 97%)	Please inquire
DLM-7678	Adenosine (ribose-5,5-D_2, 98%)	Please inquire
NLM-9750-SL	Adenosine (U-$^{15}N_5$, 96%)	10 mg, 50 mg
CNLM-3806-CA	Adenosine ($^{13}C_{10}$, 98%; $^{15}N_5$, 96%)	10 mg, 50 mg
CLM-3605	Adenosine·H_2O (ribose-1-^{13}C, 99%) CP 95%	0.1 g, 0.25 g
CLM-7674	Adenosine·H_2O (3'-^{13}C, 98%)	0.05 g, 0.1 g
CNLM-3802-SL	Adenosine 5'-monophosphate (AMP) (U-$^{13}C_{10}$, 98%; U-$^{15}N_5$, 96%)	10 mg, 50 mg
CNLM-3802-CA	Adenosine 5'-monophosphate (AMP), ammonium salt (U-$^{13}C_{10}$, 99%; U-$^{15}N_5$, 98%) CP 95% (100 mM in water, pH 7.5)	10 mg, 50 mg
NLM-3792-SL	Adenosine 5'-monophosphate (AMP), lithium salt (U-$^{15}N_5$, 96%) in solution	10 mg, 50 mg
CLM-11604-SL	Adenosine phosphoramidite (U-$^{13}C_{10}$, 98%) CP 95%	10 mg, 50 mg
NLM-11609-SL	Adenosine phosphoramidite (U-$^{15}N_5$, 98%) CP 95%	10 mg, 50 mg
CNLM-11613-SL	Adenosine phosphoramidite (U-$^{13}C_{10}$, 98%; U-$^{15}N_5$, 98%) CP 95%	10 mg, 50 mg
CLM-11402-CA	Adenosine 5'-triphosphate (ATP), ammonium salt (4'-^{13}C, 99%) CP 95% (in solution)	Please inquire
CLM-11403-CA	Adenosine 5'-triphosphate (ATP), ammonium salt (5'-^{13}C, 99%) CP 95% (in solution)	Please inquire
CLM-11404-CA	Adenosine 5'-triphosphate (ATP), ammonium salt (1',2',3',4',5'-$^{13}C_5$, 99%) CP 95% (in solution)	Please inquire
CLM-8426-CA	Adenosine 5'-triphosphate (ATP), ammonium salt ($^{13}C_{10}$, 99%) CP 95% (in solution)	100 µmol
DLM-7514-CA	Adenosine 5'-triphosphate (ATP), ammonium salt (U-D, 97%) CP 90% (in solution)	20 µmol, 50 µmol, 100 µmol
DLM-8815-CA	Adenosine 5'-triphosphate (ATP), ammonium salt (2-D, 97%) CP 90% (in solution)	100 µmol
DLM-11405-CA	Adenosine 5'-triphosphate (ATP), ammonium salt (4'-D, 97%) CP 95% (in solution)	Please inquire
DLM-9268-CA	Adenosine 5'-triphosphate (ATP), ammonium salt (2,8-D_2, 98%) CP 95% (in solution)	Please inquire
DLM-11406-CA	Adenosine 5'-triphosphate (ATP), ammonium salt (5',5"-D_2, 97%) CP 95% (in solution)	Please inquire
DLM-8922-CA	Adenosine 5'-triphosphate (ATP), ammonium salt (ribose-3',4',5',5'-D_4, 98%) CP 90% (in solution)	20 µmol, 50 µmol, 100 µmol
NLM-3987-CA	Adenosine 5'-triphosphate (ATP), ammonium salt ($^{15}N_5$, 98%) CP 90% (in solution)	20 µmol, 100 µmol
CNLM-4265-CA	Adenosine 5'-triphosphate (ATP), ammonium salt ($^{13}C_{10}$, 98%; $^{15}N_5$, 98%) CP 90% (in solution)	20 µmol, 50 µmol, 100 µmol
DNLM-10985-CA	Adenosine 5'-triphosphate (ATP), ammonium salt (ribose-D_6, 98%; $^{15}N_5$, 98%) CP 95% (in solution)	Please inquire
NLM-12312	DL-Allantoin ($^{15}N_4$, 98%) CP 97%	Please inquire
CLM-3611	Cytidine (ribose-1-^{13}C, 99%)	0.25 g
CLM-3699	Cytidine (ribose-2-^{13}C, 99%)	Please inquire
CLM-3679	Cytidine (ribose-$^{13}C_5$, 98%)	0.05 g, 0.1 g
DLM-7681	Cytidine (ribose-5,5-D_2, 98%)	Please inquire
NLM-3797	Cytidine ($^{15}N_3$, 96%)	50 mg
CNLM-3807	Cytidine ($^{13}C_9$, 98%; $^{15}N_3$, 96%)	50 mg
NLM-3793-SL	Cytidine 5'-monophosphate (CMP), lithium salt (U-$^{15}N_3$, 96%) CP 90% (in solution)	10 mg, 50 mg
CNLM-3803-SL	Cytidine 5'-monophosphate (CMP), lithium salt (U-$^{13}C_9$, 98%; U-$^{15}N_3$, 96%) CP 90% (in solution)	10 mg, 50 mg
CLM-11606-SL	Cytidine phosphoramidite (U-$^{13}C_9$, 98%) CP 95%	10 mg, 50 mg
NLM-11610-SL	Cytidine phosphoramidite (U-$^{15}N_3$, 98%) CP 95%	10 mg, 50 mg
CNLM-11614-SL	Cytidine phosphoramidite (U-$^{13}C_9$, 98%; U-$^{15}N_3$, 98%) CP 95%	10 mg, 50 mg
CLM-10987-CA	Cytidine 5'-triphosphate (CTP), ammonium salt ($^{13}C_9$, 99%) CP 95% (in solution)	100 µmol

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Nucleic Acids *(continued)*

Catalog No.	Description	Unit Size
DLM-9267-CA	Cytidine 5′-triphosphate (CTP), ammonium salt (5,6-D_2, 97%) CP 90% (in solution)	100 µmol
DLM-8924-CA	Cytidine 5′-triphosphate (CTP), ammonium salt (5-D, ribose-3′,4′,5′,5′-D_4, 97%) CP 90% (in solution)	20 µmol, 50 µmol, 100 µmol
DLM-8594-CA	Cytidine 5′-triphosphate (CTP), ammonium salt (cytosine-5-D, 6-H; ribose-1,2,3,4,5,5-D_6, 96%) in solution	100 µmol
DLM-7515-CA	Cytidine 5′-triphosphate (CTP), ammonium salt (D_8, 97%) CP 90% (in solution)	20 µmol, 50 µmol, 100 µmol
NLM-4266-CA	Cytidine 5′-triphosphate (CTP), ammonium salt ($^{15}N_3$, 96%) CP 90% (in solution)	20 µmol, 100 µmol
CNLM-4267-CA	Cytidine 5′-triphosphate (CTP), ammonium salt ($^{13}C_9$, 99%; $^{15}N_3$, 96%) CP 90% (in solution)	20 µmol, 50 µmol, 100 µmol
CLM-1001	Cytosine (2-^{13}C, 99%)	Please inquire
CNLM-4424	Cytosine (2-^{13}C, 99%; 1,3-$^{15}N_2$, 98%)	0.05 g
DLM-4750	2-Deoxy-D-ribose (5,5-D_2, 98%)	Please inquire
CLM-3700	2′-Deoxyadenosine·H_2O (deoxyribose-1-^{13}C, 99%)	Please inquire
CLM-3701	2′-Deoxyadenosine·H_2O (deoxyribose-2-^{13}C, 99%)	Please inquire
CLM-7682	2′-Deoxyadenosine·H_2O (ribose-5-^{13}C, 98%)	0.05 g, 0.1 g
CLM-4579	2′-Deoxyadenosine·H_2O (ribose-$^{13}C_5$, 99%)	Please inquire
DLM-7683	2′-Deoxyadenosine·H_2O (ribose-5,5-D_2, 98%)	0.05 g, 0.1 g
NLM-3895	2′-Deoxyadenosine·H_2O ($^{15}N_5$, 96%)	25 mg
CNLM-3896-CA	2′-Deoxyadenosine monohydrate ($^{13}C_{10}$, 98%; $^{15}N_5$, 96%)	5 mg, 10 mg, 25 mg
NLM-3919-SL	2′-Deoxyadenosine 5′-monophosphate (U-$^{15}N_5$, 98%)	10 mg, 50 mg
CNLM-3918-SL	2′-Deoxyadenosine 5′-monophosphate, lithium salt (U-$^{13}C_{10}$, 98%; U-$^{15}N_5$, 98%) in solution	10 mg, 50 mg
NLM-6829	2′-Deoxyadenosine phosphoramidite ($^{15}N_5$, 98%) CP 95%	10 mg, 25 mg, 50 mg
CNLM-6828	2′-Deoxyadenosine phosphoramidite ($^{13}C_{10}$, 98%; $^{15}N_5$, 98%) CP 95%	10 mg, 25 mg, 50 mg
CNLM-6219-CA	2′-Deoxyadenosine 5′-triphosphate, ammonium salt ($^{13}C_{10}$, 98%; $^{15}N_5$, 96%) CP 90% (in solution)	20 µmol, 100 µmol
DLM-7507-SL	2′-Deoxyadenosine 5′-triphosphate, lithium salt (U-D, 97%) CP 90% (in solution)	10 mg, 50 mg
NLM-6215-SL	2′-Deoxyadenosine 5′-triphosphate, lithium salt (U-$^{15}N_5$, 98%) CP 90% (in solution)	10 mg, 50 mg
NLM-3897	2′-Deoxycytidine ($^{15}N_3$, 96%)	25 mg
CLM-7684	2′-Deoxycytidine·H_2O (ribose-1-^{13}C, 98%)	Please inquire
CLM-3702	2′-Deoxycytidine·H_2O (deoxyribose-2-^{13}C, 99%)	Please inquire
DLM-7685	2′-Deoxycytidine·H_2O (ribose-5,5-D_2, 98%)	Please inquire
NLM-3921	2′-Deoxycytidine 5′-monophosphate ($^{15}N_3$, 96%)	10 mg
NLM-6827	2′-Deoxycytidine phosphoramidite ($^{15}N_3$, 97%) CP 95%	10 mg, 25 mg, 50 mg
CNLM-6830	2′-Deoxycytidine phosphoramidite ($^{13}C_9$, 98%; $^{15}N_3$, 98%) CP 95%	10 mg, 25 mg, 50 mg
DLM-7508-SL	2′-Deoxycytidine 5′-triphosphate, dilithium salt (U-D, 97%) CP 90% (in solution)	10 mg, 50 mg
NLM-6216-SL	2′-Deoxycytidine 5′-triphosphate, lithium salt (U-$^{15}N_3$, 98%) CP 90% (in solution)	10 mg, 50 mg
CNLM-6220-SL	2′-Deoxycytidine 5′-triphosphate, lithium salt (U-$^{13}C_9$, 98%; U-$^{15}N_3$, 98%) CP 90% (in solution)	10 mg, 50 mg
CLM-7686	2′-Deoxyguanosine·H_2O (ribose-1-^{13}C, 98%)	Please inquire
CLM-11401-CA	2′-Deoxyguanosine·H_2O ($^{13}C_{10}$, 99%) CP 95%	Please inquire
DLM-7687	2′-Deoxyguanosine·H_2O (ribose-5,5-D_2, 98%)	0.05 g, 0.1 g
NLM-3899-CA	2′-Deoxyguanosine·H_2O ($^{15}N_5$, 98%) CP 95%	5 mg, 10 mg, 25 mg
CNLM-3900-CA	2′-Deoxyguanosine·H_2O ($^{13}C_{10}$, 98%; $^{15}N_5$, 96%)	5 mg, 10 mg, 25 mg
NLM-6835-SL	2′-Deoxyguanosine 5′-monophosphate (U-$^{15}N_5$, 98%) CP 90% (in solution)	10 mg
CNLM-6836-SL	2′-Deoxyguanosine 5′-monophosphate (U-^{13}C, 98%; U-^{15}N, 98%)	10 mg, 50 mg
NLM-6826	2′-Deoxyguanosine phosphoramidite ($^{15}N_5$, 98%) CP 95%	10 mg, 25 mg, 50 mg
CNLM-6825	2′-Deoxyguanosine phosphoramidite ($^{13}C_{10}$, 98%; $^{15}N_5$, 98%) CP 95%	10 mg, 25 mg, 50 mg
NLM-6217-CA	2′-Deoxyguanosine 5′-triphosphate, ammonium salt ($^{15}N_5$, 98%) CP 90% (in solution)	100 µmol
CNLM-6221-CA	2′-Deoxyguanosine 5′-triphosphate, ammonium salt ($^{13}C_{10}$, 98%; $^{15}N_5$, 96%) CP 90% (in solution)	100 µmol
DLM-7509-SL	2′-Deoxyguanosine 5′-triphosphate, dilithium salt (U-D, 97%) CP 90% (in solution)	10 mg, 50 mg
CNLM-7871-SL	Set of 4 2′-deoxyribonucleoside 5′-monophosphates (U-^{13}C, 98%; U-^{15}N, 98%) CP 90% (in solution)	4 × 10 mg
DLM-7511-SL	Set of 4 2′-deoxyribonucleoside 5′-triphosphates, lithium salt (U-D, 98%) CP 90% (in solution)	4 × 10 mg, 4 × 50 mg
NLM-7512-SL	Set of 4 2′-deoxyribonucleoside 5′-triphosphates, lithium salt (U-^{15}N, 98%) CP 90% (in solution)	4 × 10 mg, 4 × 50 mg
CNLM-7513-SL	Set of 4 2′-deoxyribonucleoside 5′-triphosphates, lithium salt (U-^{13}C, 98%; U-^{15}N, 98%) (in solution) CP 90%	4 × 10 mg, 4 × 50 mg

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Catalog No.	Description	Unit Size
CNLM-8771-CA	2′-Deoxyuridine, ammonium salt ($^{13}C_9$, 98%; $^{15}N_2$, 98%) CP 90% (in solution)	25 µmol, 50 µmol, 100 µmol
DLM-4391	5,6-Dihydrothymine (5,6,6-D_3, methyl-D_3, 95%)	50 mg
CNLM-4510	5,6-Dihydrouracil ($^{13}C_4$, 99%; $^{15}N_2$, 98%)	25 mg
DLM-7862	Equimolar mix: ATP, GTP (ribose-3′,4′,5′,5″-D_4, 98%), CTP, UTP (5-D, ribose-3′,4′,5′,5″-D_4, 98%) ammonium salt	100 mg
CNLM-3752	Fapyadenine (formyl-^{13}C, 98%; diamino-$^{15}N_2$, 98%)	25 mg
CNLM-3858	Fapyguanine (formyl-^{13}C, 99%; 4-amino-5-amido-$^{15}N_2$, 98%)	Please inquire
ULM-11411-CA	2-Fluoro-2′-deoxyadenosine 5′-triphosphate, ammonium salt (unlabeled) CP 95% (in solution)	Please inquire
ULM-11412-CA	5-Fluoro-2′-deoxycytidine 5′-triphosphate, ammonium salt (unlabeled) CP 95% (in solution)	Please inquire
ULM-11413-CA	5-Fluoro-2′-deoxyuridine 5′-triphosphate, ammonium salt (unlabeled) CP 95% (in solution)	Please inquire
NLM-798	5-Fluorouracil (1,3-$^{15}N_2$, 99%)	Please inquire
CNLM-3916	5-Fluorouracil ($^{13}C_4$, 99%; $^{15}N_2$, 98%)	10 mg
DLM-1846	Guanidine·DCl (D_6, 98%)	1 g
NLM-6723	Guanidine·HBr ($^{15}N_3$, 98%)	Please inquire
CLM-1019	Guanine (8-^{13}C, 98%)	0.5 g
NLM-6925	Guanine ($^{15}N_5$, 98%)	10 mg
CNLM-3990	Guanine (8-^{13}C, 98%; 7,9-$^{15}N_2$, 98%)	25 mg
CLM-7688	Guanosine·H_2O (ribose-1-^{13}C, 98%)	Please inquire
DLM-7689	Guanosine·H_2O (ribose-5,5-D_2, 98%)	Please inquire
CNLM-3808-CA	Guanosine·H_2O ($^{13}C_{10}$, 98%; $^{15}N_5$, 96%)	5 mg, 10 mg, 25 mg
NLM-3798	Guanosine·$2H_2O$ ($^{15}N_5$, 96%)	50 mg
CNLM-3804-SL	Guanosine 5′-monophosphate (GMP), lithium salt (U-$^{13}C_{10}$, 98%; U-$^{15}N_5$, 98%) CP 90% (in solution)	10 mg, 50 mg
NLM-3794-SL	Guanosine 5′-monophosphate (GMP) (U-$^{15}N_5$, 98%) CP 90% (lyophilized powder)	10 mg, 50 mg
CLM-11607-SL	Guanosine phosphoramidite (U-$^{13}C_{10}$, 98%) CP 95%	10 mg, 50 mg
NLM-11611-SL	Guanosine phosphoramidite (U-$^{15}N_5$, 98%) CP 95%	10 mg, 50 mg
CNLM-11615-SL	Guanosine phosphoramidite (U-$^{13}C_{10}$, 98%; U-$^{15}N_5$, 98%) CP 95%	10 mg, 50 mg
CLM-10988-CA	Guanosine 5′-triphosphate (GTP), ammonium salt ($^{13}C_{10}$, 99%) CP 90% (in solution)	100 µmol
DLM-7516-CA	Guanosine 5′-triphosphate (GTP), ammonium salt (U-D, 97%) CP 90% (in solution)	20 µmol, 50 µmol,100 µmol
DLM-11407-CA	Guanosine 5′-triphosphate (GTP), ammonium salt (3′-D, 97%) CP 95% (in solution)	Please inquire
DLM-8923-CA	Guanosine 5′-triphosphate (GTP), ammonium salt (ribose-3′,4′,5′,5′-D_4, 98%) CP 90% (in solution)	20 µmol, 50 µmol,100 µmol
DNLM-10913-CA	Guanosine 5′-triphosphate (GTP), ammonium salt (ribose-1′,2′,3′,4′,5′,5″-D_6, 98%; $^{15}N_5$, 98%) CP 90% (in solution)	Please inquire
NLM-4268-CA	Guanosine 5′-triphosphate (GTP), ammonium salt ($^{15}N_5$, 98%) CP 90% (in solution)	20 µmol, 100 µmol
CNLM-4269-CA	Guanosine 5′-triphosphate (GTP), ammonium salt ($^{13}C_{10}$, 99%; $^{15}N_5$, 98%) CP 90% (in solution)	20 µmol, 50 µmol,100 µmol
DNLM-10913-CA	Guanosine 5′-triphosphate (GTP), ammonium salt (ribose-1′,2′,3′,4′,5′,5″-D_6, 98%; $^{15}N_5$, 98%) CP 90% (in solution)	100 µmol
NLM-6715	8-Hydroxy-2′-deoxyguanosine ($^{15}N_5$, 98%) CP 95%	0.1 mg, 1 mg
CNLM-4392	5-Hydroxycytosine (2-^{13}C, 99%; 1,3-$^{15}N_2$, 98%)	25 mg, 50 mg
DLM-10484	5-Hydroxymethyl-2'-deoxycytidine (hydroxymethyl-D_2, 6-D, 98%)	Please inquire
CLM-8042	Hypoxanthine ($^{13}C_5$, 99%)	0.1 mg, 10 mg
DLM-8658	Hypoxanthine (2,8-D_2, 98%)	0.1 g
DLM-2923	Hypoxanthine (2,8,9-D_3, OD, 98%)	0.1 g
NLM-8500	Hypoxanthine ($^{15}N_4$, 98%)	Please inquire
CNLM-7894	Hypoxanthine ($^{13}C_5$, 99%; $^{15}N_4$, 98%)	10 mg
NLM-4264	Inosine ($^{15}N_4$, 95%)	0.01 g, 0.05 g
NLM-8712-CA	Inosine 5′-monophosphate, ammonium salt ($^{15}N_4$, 98%) CP 90% (in solution)	100 µmol
DLM-7471	3-Methyladenine (methyl-D_3, 98%)	50 mg
CNLM-11120	2′-*O*-Methyladenosine ($^{13}C_{10}$, 98%; $^{15}N_5$, 96%)	Please inquire
DLM-7472	7-Methylguanine (methyl-D_3, 98%)	10 mg
DLM-7473	6-*O*-Methylguanine (methyl-D_3, 98%)	10 mg
CLM-10671	Nicotinamide adenine dinucleotide (NAD^+), ammonium salt (ribose-$^{13}C_5$, 98%) CP 96% (in solution)	0.5 mg, 1 mg

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Nucleic Acids *(continued)*

Catalog No.	Description	Unit Size
CLM-9427-CA	1-(5′-Phosphoribosyl)-5-amino-4-imidazole-carboxamide salt ($2NH_4^+$) (ribose-$^{13}C_5$, 99%) CP 90%	100 µmol
CLM-11345-CA	Pseudouridine ($^{13}C_9$, 99%; $^{15}N_2$, 98%) in solution	Please inquire
CLM-11344-CA	Pseudouridine 5′-monophosphate, ammonium salt ($^{13}C_9$, 99%; $^{15}N_2$, 98%) in solution	Please inquire
DLM-7518-SL	Set of 4 ribonucleoside 5′-triphosphates, lithium salt (U-D, 98%) CP 90% (in solution)	10 mg, 50 mg
NLM-7519-SL	Set of 4 ribonucleoside 5′-triphosphates, lithium salt (U-^{15}N, 98%) CP 90% (in solution)	10 mg, 50 mg
CNLM-7503-SL	Set of 4 ribonucleoside 5′-triphosphates, lithium salt (U-^{13}C, 98%; U-^{15}N, 98%) CP 90% (in solution)	10 mg, 50 mg
DLM-7518-CA	Set of 4 ribonucleoside 5′-triphosphates, ammonium salt (U-D, 98%) CP 90% (in solution)	4 × 20 µmol, 4 × 50 µmol, 4 × 100 µmol
NLM-7519-CA	Set of 4 ribonucleoside 5′-triphosphates, ammonium salt (U-^{15}N, 98%) CP 90% (in solution)	4 × 100 µmol
CNLM-7503-CA	Set of 4 ribonucleoside 5′-triphosphates, ammonium salt (U-^{13}C, U-^{15}N; 98%) CP 90% (in solution)	4 × 20 µmol, 4 × 50 µmol, 4 × 100 µmol
CLM-11348-CA	1-Ribosyl-5-aminoimidazole-4-carboxamide (acadesine) (ribose-$^{13}C_5$, 99%)	100 µmol
CLM-3629	Ribothymidine (ribose-1-^{13}C, 99%)	Please inquire
NLM-7565-SL	RNA standard (^{15}N, 98%)	1 mg
DLM-10436	Theobromine (3,7-dimethylxanthine) (7-methyl-D_3, 98%)	Please inquire
CLM-3647	Thymidine (methyl-^{13}C, 98%)	0.25 g, 0.5 g
CLM-4289	Thymidine (deoxyribose-1-^{13}C, 99%)	Please inquire
CLM-3703	Thymidine (deoxyribose-2-^{13}C, 99%)	Please inquire
CLM-7692	Thymidine (deoxyribose-3-^{13}C, 99%)	Please inquire
DLM-7691	Thymidine (ribose-5,5-D_2, 98%)	Please inquire
DLM-3327	Thymidine (methyl-D_3, ring-6-D, 97%) CP 95%	Please inquire
NLM-3901	Thymidine ($^{15}N_2$, 96%)	25 mg
CNLM-3902	Thymidine ($^{13}C_{10}$, 98%; $^{15}N_2$, 96%)	25 mg
NLM-10691	α-Thymidine ($^{15}N_2$, 98%)	Please inquire
NLM-3925	Thymidine 5′-monophosphate ($^{15}N_2$, 98%)	10 mg
CNLM-3924-SL	Thymidine 5′-monophosphate (U-$^{13}C_{10}$, 98%; U-$^{15}N_2$, 98%)	10 mg, 50 mg
NLM-6823	Thymidine phosphoramidite ($^{15}N_2$, 96%) CP 95%	10 mg, 25 mg, 50 mg
CNLM-6824	Thymidine phosphoramidite ($^{13}C_{10}$, 98%; $^{15}N_2$, 98%) CP 95%	10 mg, 25 mg, 50 mg
DLM-7510-SL	Thymidine 5′-triphosphate, lithium salt (U-D, 97%) CP 90% (in solution)	10 mg, 50 mg
NLM-6218-SL	Thymidine 5′-triphosphate, lithium salt (U-$^{15}N_2$, 98%) CP 90% (in solution)	10 mg, 50 mg
CNLM-6222-SL	Thymidine 5′-triphosphate, lithium salt (U-$^{13}C_{10}$, 98%; U-$^{15}N_2$, 98%) CP 90% (in solution)	10 mg, 50 mg
CLM-3764	Thymine (6-^{13}C, 99%)	0.25 g
DLM-1089	Thymine (α,α,α,6-D_4, 98%)	1 g
NLM-3995	Thymine (1,3-$^{15}N_2$, 98%)	0.1 g
CNLM-6945	Thymine ($^{13}C_5$, 98%; $^{15}N_2$, 98%)	Please inquire
CLM-10507	Uracil ($^{13}C_4$, 99%)	Please inquire
NLM-637	Uracil (1,3-$^{15}N_2$, 98%)	0.25 g, 0.5 g
NLM-1697	Uric acid (1,3-$^{15}N_2$, 98%)	0.1 g, 0.5 g
CNLM-10617	Uric acid (2-^{13}C, 98%; 1,3,7-$^{15}N_3$, 98%) CP 95%	1 mg
CLM-3276	Uracil (2-^{13}C, 99%)	0.1 g
CLM-692	Uracil (4,5-$^{13}C_2$, 99%)	0.25 g
DLM-8633	Uracil (5-D, 98%)	0.1 g, 0.25 g
DLM-8502	Uracil (5,6-D_2, 98%)	0.1 g, 0.25 g
CNLM-3917	Uracil ($^{13}C_4$, 99%; $^{15}N_2$, 98%)	0.1 g
NLM-10910	Uric acid, sodium salt ($^{15}N_2$, 98%) CP 95%	Please inquire
CLM-3630	Uridine (ribose-1-^{13}C, 99%)	0.05 g, 0.1 g
CLM-3680	Uridine (ribose-$^{13}C_5$, 98%)	Please inquire
DLM-11408-CA	Uridine (5-D, 97%) CP 95% (in solution)	Please inquire
DLM-7693	Uridine (ribose-5,5-D_2, 98%)	Please inquire
NLM-812	Uridine ($^{15}N_2$, 98%)	25 mg
CDLM-11409-CA	Uridine (1′,2′,3′,4′,5′-$^{13}C_5$, 99%; 5-D, 97%) CP 95% (in solution)	Please inquire
CNLM-3809	Uridine ($^{13}C_9$, 98%; $^{15}N_2$, 96%)	Please inquire

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Catalog No.	Description	Unit Size
CDNLM-11410-CA	Uridine (2,4,5,6-$^{13}C_4$, 99%; 5-D, 97%; 1,3-$^{15}N_2$, 98%) CP 95% (in solution)	Please inquire
CLM-10513	Uridine diphosphate-α-D-glucose, disodium salt (glucose-$^{13}C_6$, 99%) in solution	Please inquire
NLM-3795	Uridine 5′-monophosphate ($^{15}N_2$, 96%)	10 mg
NLM-3795-SL	Uridine 5′-monophosphate, lithium salt (U-$^{15}N_2$, 96%) in solution	10 mg
CNLM-3805-SL	Uridine 5′-monophosphate, lithium salt (U-$^{13}C_9$, 98%; U-$^{15}N_2$, 96%) CP 90% (in solution)	10 mg, 50 mg
CLM-11608-SL	Uridine phosphoramidite (U-$^{13}C_9$, 98%) CP 95%	10 mg, 50 mg
NLM-11612-SL	Uridine phosphoramidite (U-$^{15}N_2$, 98%) CP 95%	10 mg, 50 mg
CNLM-11616-SL	Uridine phosphoramidite (U-$^{13}C_9$, 98%; U-$^{15}N_2$, 98%) CP 95%	10 mg, 50 mg
CLM-10914-CA	Uridine 5′-triphosphate (UTP), ammonium salt ($^{13}C_9$, 99%) CP 90% (in solution)	100 µmol
DLM-9365-CA	Uridine 5′-triphosphate (UTP), ammonium salt (uracil-5-D, 98%) CP 90% (in solution)	100 µmol
DLM-9100-CA	Uridine 5′-triphosphate (UTP), ammonium salt (5,6-D_2, 98%) CP 90% (in solution)	100 µmol
DLM-8925-CA	Uridine 5′-triphosphate (UTP), ammonium salt (5-D, ribose-3′,4′,5′,5′-D_4, 98%) CP 90% (in solution)	20 µmol, 50 µmol, 100 µmol
DLM-8637-CA	Uridine 5′-triphosphate (UTP), ammonium salt (uracil-5-D, 6-H; ribose-1,2,3,4,5,5-D_6, 96%) CP 90% (in solution)	100 µmol
DLM-7517-CA	Uridine 5′-triphosphate (UTP), ammonium salt (D_8, 97%) CP 90% (in solution)	20 µmol, 50 µmol, 100 µmol
NLM-4270-CA	Uridine 5′-triphosphate (UTP), ammonium salt ($^{15}N_2$, 98%) CP 90% (in solution)	20 µmol, 100 µmol
CNLM-4271-CA	Uridine 5′-triphosphate (UTP), ammonium salt ($^{13}C_9$, 99%; $^{15}N_2$, 98%) CP 90% (in solution)	20 µmol, 50 µmol, 100 µmol
DNLM-10986-CA	Uridine 5′-triphosphate (UTP), ammonium salt (ribose-D_6, 98%; uracil-$^{15}N_2$, 98%) CP 95% (in solution)	Please inquire
NLM-1698	Xanthine (1,3-$^{15}N_2$, 98%) CP 90%	0.1 g
CLM-10530	Xanthosine ($^{13}C_5$, 98%) CP 95%	Please inquire
CLM-8700-CA	Xanthosine-5′-monophosphate, ammonium salt ($^{13}C_{10}$, 98%) CP 90% (in solution)	100 µmol

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Organic Acids and Their Conjugate Salts

Organic acids (OAs) play essential roles in energy metabolism pathways (e.g., glycolysis, tricarboxylic acid cycle), with the short-chained OAs emerging as important regulators of host immune response and transcriptional regulation.

To aid quantitative research in preclinical and clinical studies, CIL is pleased to offer a collection of stable isotope-labeled and unlabeled OAs and their conjugate salts. These encompass monocarboxylic (e.g., acetic, lactic), dicarboxylic (e.g., malic, succinic), and tricarboxylic (e.g., *cis*-aconitic, citric) acids.

Catalog No.	Description	Concentration	Unit Size
CLM-317	Acetic acid (1-^{13}C, 99%)	neat	1 g, 5 g
CLM-318	Acetic acid (2-^{13}C, 99%)	neat	1 g
CLM-113	Acetic acid (1,2-$^{13}C_2$, 99%)	neat	0.5 g, 1 g
CLM-12323	*cis*-Aconitic acid, trisodium salt, trihydrate ($^{13}C_4$, 99%) (1,2,3,6 : 3,4,5,6 AS 96:4) CP 97%	neat	1 g, 5 g, 10 g
CLM-9878	*trans*-Aconitic acid (2,4,4'-$^{13}C_3$, 99%) CP 95%	neat	Please inquire
CLM-4723	Adipic acid ($^{13}C_6$, 99%)	neat	0.1 g
DLM-2905	Adipic acid (2,2,5,5-D_4, 98%)	neat	Please inquire
DLM-2632	Adipic acid (3,3,4,4-D_4, 98%)	neat	0.5 g, 1 g
DLM-2115	Adipic acid (D_{10}, 98%)	neat	Please inquire
CLM-10894	Adipic acid, disodium salt ($^{13}C_6$, 99%)	neat	0.1 mg
ULM-10893	Adipic acid, disodium salt (unlabeled) CP 95%	neat	0.1 mg
CLM-535	5-Aminolevulinic acid:HCl (4-^{13}C, 99%)	neat	0.05 g
CLM-1371	5-Aminolevulinic acid·HCl (5-^{13}C, 99%) CP 96%	neat	0.05 g, 0.1 g
CLM-7337	Citric acid (1,5-$^{13}C_2$, 98%)	neat	Please inquire
CLM-148	Citric acid (2,4-$^{13}C_2$, 99%)	neat	Please inquire
CLM-9876	Citric acid (1,5,6-carboxyl-$^{13}C_3$, 99%)	neat	0.1 mg, 0.1 g
CLM-9021	Citric acid ($^{13}C_6$, 99%) CP 97%	neat	Please inquire
DLM-3487	Citric acid (2,2,4,4-D_4, 98%)	neat	0.5 g
CLM-7933	Creatine (guanidino-^{13}C, 99%)	neat	0.1 g
DLM-1302	Creatine (methyl-D_3, 98%) CP 97%	neat	0.25 g
DLM-12302	Creatine·H_2O (*N*-methyl-D_3; glycine-2,2-D_2, 99%)	neat	Please inquire
CLM-495	Diethyl malonate (2-^{13}C, 99%)	neat	0.5 g, 1 g
CLM-521	Diethyl malonate (1,3-$^{13}C_2$, 99%)	neat	0.25 g, 0.5 g, 1 g
CLM-3603	Diethyl malonate (1,2,3-$^{13}C_3$, 99%)	neat	0.5 g
CLM-681	Ethyl acetoacetate (3-^{13}C, 99%)	neat	0.5 g, 1 g
CLM-1284	Formic acid (^{13}C, 99%) <5% H_2O	neat	0.5 g, 1 g, 5 g
DLM-743	Formic acid (formyl-D, 98%) <5% H_2O	neat	5 g
DLM-285	Formic acid (OD, 98%) <5% D_2O	neat	5 g
DLM-286	Formic acid (D_2, 98%) <5% D_2O	neat	5 g
CLM-1529	Fumaric acid ($^{13}C_4$, 99%)	neat	0.1 mg, 0.1 g
DLM-1539	Fumaric acid (2,3-D_2, 98%)	neat	5 g
DLM-7654	Fumaric acid (D_4, 98%)	neat	1 g
CDLM-6062	Fumaric acid (1-^{13}C, 99%; 2,3-D_2, 98%)	neat	Please inquire
CDLM-8473	Fumaric acid (1,4-$^{13}C_2$, 99%; 2,3-D_2, 98%)	neat	0.1 g
CLM-10890	Fumaric acid, disodium salt ($^{13}C_4$, 99%)	neat	Please inquire
DLM-3106	Glutaric acid (2,2,4,4-D_4, 98%)	neat	5 g
CLM-10351	DL-2-Hydroxyglutaric acid, disodium salt ($^{13}C_5$, 99%)	neat	1 mg, 10 mg
ULM-10479	DL-2-Hydroxyglutaric acid, disodium salt (unlabeled)	neat	0.01 g, 0.1 g
DLM-9104	(*RS*)-2-Hydroxyglutaric acid, disodium salt (2,3,3-D_3; OD, 98%) CP 95%	neat	0.1 g
CLM-12282	Isocitric acid, trisodium salt, hydrate (3,4,5,6-$^{13}C_4$, 98%) mixture of diastereomers	neat	1 mg, 5 mg, 10 mg
CLM-6820	α-Ketobutyric acid, sodium salt (methyl-^{13}C, 99%)	neat	0.5 g
CLM-6164	α-Ketobutyric acid, sodium salt ($^{13}C_4$, 98%)	neat	0.5 g
CDLM-7318	α-Ketobutyric acid, sodium salt (methyl-^{13}C, 99%; 3,3-D_2, 98%)	neat	0.5 g, 1 g
CDLM-7353	α-Ketobutyric acid, sodium salt (4-^{13}C, 99%; 3,3,4,4-D_4, 98%)	neat	0.25 g
CDLM-4611	α-Ketobutyric acid, sodium salt ($^{13}C_4$, 98%; 3,3-D_2, 98%)	neat	0.1 g, 0.25 g

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Catalog No.	Description	Concentration	Unit Size
CLM-2411	α-Ketoglutaric acid ($^{13}C_5$, 99%) CP 90%	neat	0.01 g, 0.1 g
DLM-9476	α-Ketoglutaric acid (D_6, 98%)	neat	0.01 g, 0.1 g
CLM-4442	α-Ketoglutaric acid, disodium salt (1,2,3,4-$^{13}C_4$, 99%) CP 97%	neat	0.1 mg, 10 mg, 0.1 g, 0.5 g
ULM-10648	α-Ketoglutaric acid, disodium salt, hydrate (unlabeled) CP 90%	neat	0.1 mg
CLM-2093	α-Ketoisocaproic acid, sodium salt (1-^{13}C, 99%)	neat	1 g, 10 g
CLM-4826	α-Ketoisocaproic acid, sodium salt (1,2-$^{13}C_2$, 99%)	neat	0.1 g
DLM-4214	α-Ketoisocaproic acid, sodium salt (isopropyl-D_7, 98%)	neat	0.1 g, 0.25 g
CLM-4785	α-Ketoisocaproic acid, sodium salt ($^{13}C_6$, 99%)	neat	0.1 g
DLM-1944	α-Ketoisocaproic acid, sodium salt (methyl-D_3, 98%)	neat	0.5 g
CLM-6821	α-Ketoisovaleric acid, sodium salt (dimethyl-$^{13}C_2$, 99%)	neat	0.5 g
CLM-4418	α-Ketoisovaleric acid, sodium salt ($^{13}C_5$, 98%)	neat	0.25 g, 1 g
DLM-4646	α-Ketoisovaleric acid, sodium salt (D_7, 98%)	neat	Please inquire
CDLM-10647	α-Ketoisovaleric acid, sodium salt (dimethyl-$^{13}C_2$, 99%; 3-D, 98%)	neat	0.1 g, 0.5 g
CDLM-4418	α-Ketoisovaleric acid, sodium salt ($^{13}C_5$, 98%; 3-D, 98%)	neat	0.25 g
CDLM-7317	α-Ketoisovaleric acid, sodium salt (3-methyl-^{13}C, 99%; 3,4,4,4-D_4, 98%)	neat	0.5 g, 1 g
CDLM-7354	α-Ketoisovaleric acid, sodium salt (3-methyl-^{13}C, 99%; 3-methyl-D_2, 3,4,4,4-D_4, 98%)	neat	0.25 g
CDLM-8446	α-Ketoisovaleric acid, sodium salt (dimethyl-$^{13}C_2$, 98%; 3-methyl-D_2, 4,4-D_2, 98%)	neat	0.25 g
CDLM-8100	α-Ketoisovaleric acid, sodium salt (1,2,3,4-$^{13}C_4$, 99%; 3,4′,4′,4′-D_4, 97%)	neat	0.25 g
DLM-1129	Maleic acid (2,3-D_2, 98%)	neat	5 g
CLM-10892	Maleic acid, disodium salt, monohydrate ($^{13}C_4$, 99%)	neat	Please inquire
CLM-310	Maleic anhydride (1,4-$^{13}C_2$, 99%)	neat	0.25 g
CLM-312	Maleic anhydride (2,3-$^{13}C_2$, 99%)	neat	0.1 g
CLM-6019	Maleic anhydride ($^{13}C_4$, 99%)	neat	Please inquire
DLM-1853	Maleic anhydride (D_2, 98%)	neat	1 g, 5 g
DLM-9045	DL-Malic acid (2,3,3-D_3, 98%)	neat	0.1 g
CLM-8065	L-Malic acid ($^{13}C_4$, 99%)	neat	0.1 mg, 5 mg, 0.01 g, 0.05 g, 0.1 g
ULM-10964	L-Malic acid (unlabeled)	neat	0.1 mg
CLM-10826	Malic acid, disodium salt, monohydrate ($^{13}C_4$, 99%)	neat	Please inquire
CLM-751	Malonic acid (2-^{13}C, 99%)	neat	0.5 g, 1 g
CLM-1248	Malonic acid (1,3-$^{13}C_2$, 99%)	neat	0.25, 0.5 g, 1 g
CLM-6123	Malonic acid ($^{13}C_3$, 99%)	neat	0.25 g
DLM-205	Malonic acid (D_4, 98%)	neat	50 g
CLM-10887	Malonic acid, disodium salt ($^{13}C_3$, 99%)	neat	Please inquire
DLM-2312	DL-2-Methylcitric acid (methyl-D_3, 98%) CP 90%	neat	5 mg, 10 mg
CLM-4285	3-Methylglutaconic acid (2,4-$^{13}C_2$, 3-methyl-^{13}C, 99%) *cis*/*trans* mix	neat	5 mg
CLM-10398	2-Methylglutaric acid (4,5-$^{13}C_2$, 98%) CP 95%	neat	Please inquire
CLM-9426	Methylmalonic acid ($^{13}C_4$, 99%)	neat	0.1 g
DLM-387	Methylmalonic acid (methyl-D_3, 98%)	neat	0.25 g
CLM-10895	Methylmalonic acid, disodium salt ($^{13}C_4$, 99%)	neat	Please inquire
ULM-10578	Methylmalonic acid, disodium salt (unlabeled) CP 95%	neat	Please inquire
NLM-10907	Orotic acid, sodium salt ($^{15}N_2$, 98%)	neat	Please inquire
NLM-1048	Orotic acid·H_2O (1,3-$^{15}N_2$, 98%)	neat	0.25 g
CNLM-10662	Orotic acid·H_2O (2-^{13}C, 99%; 1,3-$^{15}N_2$, 98%)	neat	Please inquire
CLM-4449	Oxalic acid, disodium salt (1,2-$^{13}C_2$, 99%)	neat	1 g
CLM-10902	Phthalic acid, disodium salt ($^{13}C_4$, 99%)	neat	Please inquire
CLM-3551	Potassium phosphoenol pyruvate (2-^{13}C, 99%)	neat	Please inquire
CLM-2723	Potassium phosphoenol pyruvate (3-^{13}C, 99%)	neat	Please inquire
CLM-3398	Potassium phosphoenol pyruvate (2,3-$^{13}C_2$, 99%)	neat	0.05 g
CLM-646	Propionic acid (1-^{13}C, 99%)	neat	1 g
CLM-647	Propionic acid ($^{13}C_3$, 99%)	neat	1 g

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
For research use only. Not for use in diagnostic procedures.

Organic Acids and Their Conjugate Salts *(continued)*

Catalog No.	Description	Concentration	Unit Size
DLM-2488	Propionic acid (2,2-D_2, 98%)	neat	1 g, 5 g
DLM-1137	Propionic acid (methyl-D_3, 98%)	neat	5 g
DLM-1919	Propionic acid (D_5, 98%)	neat	5 g
DLM-599	Propionic acid (D_6, 98%)	neat	Please inquire
CLM-8077	Pyruvic acid (1-^{13}C, 99%)	neat	1 g, 5 g
CLM-8849	Pyruvic acid (2-^{13}C, 99%)	neat	1 g, 5 g
CLM-9505	Pyruvic acid (1,2-$^{13}C_2$, 99%)	neat	1 g, 5 g
DLM-10675	Pyruvic acid (D_4, 98%)	neat	Please inquire
CDLM-10674	Pyruvic acid (1-^{13}C, 99%; D_4, 98%)	neat	Please inquire
CLM-2471	Sodium acetate (1,2-$^{12}C_2$, 99.95%) ^{13}C depleted	neat	1 g
CLM-156	Sodium acetate (1-^{13}C, 99%)	neat	1 g, 5 g, 10 g
CLM-381	Sodium acetate (2-^{13}C, 99%)	neat	1 g, 5 g, 10 g
CLM-440	Sodium acetate (1,2-$^{13}C_2$, 99%)	neat	1 g, 5 g
DLM-3126	Sodium acetate (D_3, 99%)	neat	25 g
OLM-1077	Sodium acetate ($^{18}O_2$, 95%)	neat	1 g
CDLM-611	Sodium acetate (1-^{13}C, 99%; D_3, 98%)	neat	1 g
CDLM-3457	Sodium acetate (1,2-$^{13}C_2$, 99%; D_3, 98%)	neat	1 g
CDLM-1240	Sodium acetate (2-^{13}C, 99%; D_3, 98%)	neat	1 g
COLM-1230	Sodium acetate (1-^{13}C, 99%; $^{18}O_2$, 96%)	neat	Please inquire
CLM-1256	Sodium butyrate (1-^{13}C, 99%)	neat	1 g, 5 g
CLM-10426	Sodium butyrate ($^{13}C_4$, 99%)	neat	0.1 g
DLM-641	Sodium butyrate (3,3,4,4,4-D_5, 98%)	neat	Please inquire
DLM-7616	Sodium butyrate (D_7, 98%)	neat	Please inquire
CLM-3780	Sodium dichloroacetate ($^{13}C_2$, 99%)	neat	Please inquire
CLM-583	Sodium formate (^{13}C, 99%)	neat	1 g, 5 g
OLM-8123	Sodium formate ($^{18}O_2$, 95%)	neat	0.5 g
CLM-3706	Sodium D-3-hydroxybutyrate (2,4-$^{13}C_2$, 99%)	neat	1 g
CLM-3853	Sodium D-3-hydroxybutyrate ($^{13}C_4$, 99%) CP 97%	neat	0.5 g
DLM-10415-D	Sodium DL-3-hydroxybutyrate (3,4,4,4-D_4, 98%) CP 95%	1 mg/mL in water	1 mL
CLM-10768	Sodium D-lactate ($^{13}C_3$, 98%)	20% w/w in water	Please inquire
CLM-1577	Sodium L-lactate (1-^{13}C, 99%)	20% w/w in water	1 g/compound
CLM-1578	Sodium L-lactate (3-^{13}C, 98%)	20% w/w in water	0.25 g/compound, 0.5 g/compound, 1 g/compound
CLM-1579	Sodium L-lactate ($^{13}C_3$, 98%)	20% w/w in water	0.1 g/compound
CLM-1579-N	Sodium L-lactate ($^{13}C_3$, 98%)	neat	0.1 mg
DLM-9071	Sodium L-lactate (3,3,3-D_3, 98%)	20% w/w in water	0.1 g/compound, 0.25 g/compound
CLM-771	Sodium propionate (1-^{13}C, 99%)	neat	1 g
CLM-1506	Sodium propionate (2-^{13}C, 99%)	neat	0.5 g, 1 g
CLM-4573	Sodium propionate (3-^{13}C, 99%)	neat	Please inquire
CLM-3042	Sodium propionate (2,3-$^{13}C_2$, 99%)	neat	Please inquire
CLM-1865	Sodium propionate ($^{13}C_3$, 99%)	neat	0.1 g
DLM-1601	Sodium propionate (D_5, 98%)	neat	1 g
CLM-1082	Sodium pyruvate (1-^{13}C, 99%)	neat	0.25 g, 0.5 g, 1 g
CLM-1580	Sodium pyruvate (2-^{13}C, 99%)	neat	0.5 g, 1 g
CLM-1575	Sodium pyruvate (3-^{13}C, 99%)	neat	0.25 g, 0.5 g, 1 g
CLM-3507	Sodium pyruvate (2,3-$^{13}C_2$, 99%)	neat	0.5 g, 1 g
CLM-2440	Sodium pyruvate ($^{13}C_3$, 99%)	neat	0.5 g, 1 g
DLM-6068	Sodium pyruvate (D_3, 97%)	neat	0.5 g, 1 g
CLM-1084	Succinic acid (1,4-$^{13}C_2$, 99%)	neat	0.25 g, 0.5 g, 1 g
CLM-1199	Succinic acid (2,3-$^{13}C_2$, 99%)	neat	1 g

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Catalog No.	Description	Concentration	Unit Size
CLM-1571	Succinic acid ($^{13}C_4$, 99%)	neat	0.1 g, 0.25 g, 0.1 mg
DLM-584	Succinic acid (D_4, 98%)	neat	5 g, 10 g
DLM-831	Succinic acid (D_6, 98%)	neat	5 g
CDLM-7754	Succinic acid ($^{13}C_4$, 99%; 2,2,3,3-D_4, 98%)	neat	Please inquire
CLM-9371	Succinic acid, disodium salt (2,3-$^{13}C_2$, 99%)	neat	1 g
CLM-10364	Succinic acid, disodium salt ($^{13}C_4$, 99%)	neat	Please inquire
DLM-2307	Succinic acid, disodium salt (D_4, 80%) CP 95%	neat	10 g, 25 g
CLM-6755	Succinylacetone (3,4,5,6,7-$^{13}C_5$, 99%)	neat	10 mg
CLM-10366	Trisodium citrate, hemihydrate (1,5,6-carboxy-$^{13}C_3$, 99%) CP 95%	neat	Please inquire
DLM-10758	Trisodium 2-methylcitrate (methyl-D_3, 98%) CP 90% (racemic mixture of diastereomers)	neat	5 mg, 10 mg
NLM-1697	Uric acid (1,3-$^{15}N_2$, 98%)	neat	0.1 g, 0.5 g

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Other Compounds

CIL offers a breadth of other compounds that could find utility in qualitative and quantitative, analytical analyses. These are available in neat or solution form in variable unit sizes. For a comprehensive listing of additional individual compounds, please visit **isotope.com**.

Catalog No.	Description	Concentration	Unit Size
CLM-173	Acetaldehyde (1,2-$^{13}C_2$, 99%)	neat	0.5 g, 1 g
DLM-112	Acetaldehyde (D_4, 99%)	neat	1 g, 5 g
DLM-11675	Albuterol (3-hydroxymethyl-D_2, α-D_1, 98%) CP 95%	neat	Please inquire
NLM-467	Ammonium chloride (^{15}N, 99%)	neat	1 g, 5 g, 10 g, 25 g, 50 g
DLM-11473	4-(2-Aminoethyl)morpholine (morpholino-2,2,3,3,5,5,6,6-D_8, 98%)	neat	Please inquire
CLM-9435	*N*-(3-Aminopropyl) butane-1,4-diamine·3HCl (spermidine·3HCl) ($^{13}C_4$, 99%) CP 95%	neat	5 mg, 10 mg
DLM-9261	*N*-(3-Aminopropyl) butane-1,4-diamine·3HCl (spermidine·3HCl) (1,1,2,2,3,3,4,4-D_8, 98%) CP 95%	neat	5 mg, 10 mg, 50 mg
ULM-10264	*N*-(3-Aminopropyl) butane-1,4-diamine (unlabeled) CP 95%	neat	1 mg, 5 mg, 10 mg
DLM-9262	*N,N'*-bis(3-Aminopropyl)-1,4-butanediamine·4HCl (spermine·3HCl) (1,1,2,2,3,3,4,4-D_8, 97%) CP 95%	neat	5 mg, 10 mg
ULM-10265	*N,N'*-bis(3-Aminopropyl)-1,4-butanediamine·4HCl (unlabeled) CP 95%	neat	1 mg, 5 mg, 10 mg
NLM-711	Ammonium nitrate (ammonium-^{15}N, 98%)	neat	1 g
NLM-711-10	Ammonium nitrate (ammonium-^{15}N, 10%)	neat	Please inquire
NLM-712	Ammonium nitrate (nitrate-^{15}N, 98%)	neat	1 g
NLM-712-10	Ammonium nitrate (nitrate-^{15}N, 10%)	neat	Please inquire
NLM-390	Ammonium nitrate ($^{15}N_2$, 98%)	neat	1 g
NLM-390-10	Ammonium nitrate ($^{15}N_2$, 10%)	neat	Please inquire
NLM-390-5	Ammonium nitrate ($^{15}N_2$, 5%)	neat	Please inquire
NLM-713	Ammonium sulfate ($^{15}N_2$, 99%)	neat	1 g, 5 g, 10 g, 25 g, 50 g
NLM-713-10	Ammonium sulfate ($^{15}N_2$, 10%)	neat	50 g
NLM-713-5	Ammonium sulfate ($^{15}N_2$, 5%)	neat	Please inquire
DLM-1100	Ammonium sulfate (D_8, 98%)	neat	5 g, 10 g
CLM-8141	Arsenobetaine bromide (carboxymethyl-$^{13}C_2$, 99%) CP 90%	neat	Please inquire
CNLM-9695	5-Azacytosine (4,6-$^{13}C_2$, 98%; $^{15}N_4$, 98%)	neat	Please inquire
DLM-1109	*t*-Butanol (anhydrous) (OD, 99%)	neat	25 g, 100 g
DLM-4862	Cacodylic acid (D_7, 98%)	neat	0.5 g
NLM-499	Calcium nitrate ($^{15}N_2$, 98%)	neat	1 g
NLM-499-10	Calcium nitrate ($^{15}N_2$, 10%)	neat	Please inquire
CLM-9256	(±)-Catechin (2,3,4-$^{13}C_3$, 99%)	neat	1 mg
CLM-10554	(±)-Catechin gallate (2,3,4-$^{13}C_3$, 99%) CP 97%	neat	1 mg
DLM-2816	Clozapine (4-methylpiperazinyl-D_4, 97%)	neat	5 mg, 10 mg
NEX-CRP-N	C-reactive protein (CRP) (human) (^{15}N, 98%) CP 95%	100 µg/mL in 20 mM Tris-HCl (pH 8.0) with 100 mM NaCl	1 mL
NEX-CRP-N-D	C-reactive protein (CRP) (human) (^{15}N, 98%) CP 95% (denatured)	100 µg/mL in 50 mM sodium acetate (pH 4.0) with 500 mM NaCl and 8 M urea	1 mL
DLM-9786	*p*-Cresol sulfate, potassium salt (D_7, 98%) CP 95%	neat	10 mg
CNLM-4661-10X-1.2	Cyanuric acid ($^{13}C_3$, 99%; $^{15}N_3$, 98%) CP 90%	1000 µg/mL in water	1.2 mL
CNLM-4661-1.2	Cyanuric acid ($^{13}C_3$, 99%; $^{15}N_3$, 98%) CP 90%	100 µg/mL in water	1.2 mL
NLM-11619	Cyclopropylamine (^{15}N, 98%)	neat	Please inquire
CLM-11588	Dansyl chloride (Dns-Cl) (dimethyl-$^{13}C_2$, 99%)	neat	5 mg
ULM-11630	Dansyl chloride (Dns-Cl) (unlabeled) CP 97%	neat	5 mg
CLM-9255	1,3-Diaminobenzene ($^{13}C_6$, 99%) CP 95%	neat	Please inquire
CLM-10563	1,4-Diaminobenzene ($^{13}C_6$, 99%)	neat	Please inquire
DLM-10544	Desethylamodiaquine (ethyl-D_5, 97%)	neat	2 mg, 5 mg
DLM-2744	Enalaprilat·H_2O (phenyl-D_5, 98%)	neat	Please inquire
CLM-10553	(±)-Epicatechin gallate (2,3,4-$^{13}C_3$, 99%) CP 97%	neat	1 mg
CLM-344	Ethanol (1-^{13}C, 99%) <6% H_2O	neat	0.5 g, 1 g

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Catalog No.	Description	Concentration	Unit Size
CLM-130	Ethanol (2-^{13}C, 99%) <6% H_2O	neat	0.5 g, 1 g
CLM-551	Ethanol (1,2-$^{13}C_2$, 99%) <6% H_2O	neat	0.5 g, 1 g
DLM-552	Ethanolamine (1,1,2,2-D_4, 98%)	neat	0.1 g, 1 g
NLM-8722	Ethanolamine (^{15}N, 98%)	Please inquire	Please inquire
CLM-3911	Ethanolamine·HCl (1-^{13}C, 99%)	neat	1 g
CLM-274	Ethanolamine·HCl (1,2-$^{13}C_2$, 99%)	neat	0.1 g, 0.25 g
CNLM-3446	Ethylenediamine·2HCl ($^{13}C_2$, 99%; $^{15}N_2$, 99%)	neat	Please inquire
ULM-10281	Galangin (unlabeled)	neat	1 mg
CLM-10556	(±)-Gallocatechin (2,3,4-$^{13}C_3$, 99%) CP 97%	neat	1 mg
CLM-10552	(±)-Gallocatechin gallate (2,3,4-$^{13}C_3$, 99%) CP 97%	neat	1 mg
CLM-11768	Glutathione (GSH) (cysteinyl-$^{13}C_3$, 99%) 90% net peptide (peptide purity 85%)	neat	5 g
CNLM-6245	Glutathione (GSH) (glycine-$^{13}C_2$, 98%; ^{15}N, 96%) 65% net peptide (peptide purity 85%)	neat	10 mg, 50 mg
CNLM-6245-HP	Glutathione (GSH) (glycine-$^{13}C_2$, 98%; ^{15}N, 96%) 90% net peptide (peptide purity 95%)	neat	10 mg
CNLM-8782	Glutathione disulfide (GSSG) (glycines-$^{13}C_2$, 98%; ^{15}N, 96%) (65% net peptide) peptide purity 90%	neat	5 mg
DLM-558	Glycerol (D_8, 99%)	neat	1 g, 5 g
DLM-1326	Glycerol [$(OD)_3$, 98%]	neat	5 g, 10 g
CDLM-11589	Glycerol (1,3-$^{13}C_2$, 99%; D_8, 98%) CP 95%	neat	Please inquire
CLM-11669	Glycylglycine (Gly-Gly) ($^{13}C_4$, 98%) CP 95%	neat	1 mg
NLM-6723	Guanidine·HBr ($^{15}N_3$, 98%)	neat	0.1 g
CLM-10368	Hydrocinnamic acid (1-^{13}C, 99%)	neat	Please inquire
CLM-8877	Hydrocinnamic acid (1,2,3-$^{13}C_3$, 99%)	neat	0.1 g
CNLM-10399	DL-3-Hydroxykynurenine (1,2,3-$^{13}C_3$, 98%; α-amino-^{15}N, 98%) CP 95%	neat	1 mg
CLM-9260	4-Hydroxy-3-methoxycinnamic acid (1′,2′,3′-$^{13}C_3$, 99%)	neat	1 mg, 5 mg
DLM-3033	Imidazole (D_4, 98%)	neat	1 g, 5 g
CLM-10572	Isobutanol (3,4-$^{13}C_2$, 99%)	Please inquire	Please inquire
CLM-9755	Kaempferol (2,3,4-$^{13}C_3$, 99%) CP 95%	Please inquire	Please inquire
CLM-11040	Kaempferol (U-^{13}C, 98%)	neat	Please inquire
CLM-7613	*trans*-Lycopene (8,8′,9,9′,10,10′,11,11′,19,19′-$^{13}C_{10}$, 99%)	neat	Please inquire
CNLM-8150-10X-1.2	Melamine ($^{13}C_3$, 99%; amino-$^{15}N_3$, 98%)	1000 µg/mL in water	1.2 mL
CNLM-8150-1.2	Melamine ($^{13}C_3$, 99%; amino-$^{15}N_3$, 98%)	100 µg/mL in water	1.2 mL
DLM-7101	Melatonin (acetyl-D_3, 98%)	neat	5 mg, 10 mg
CLM-359	Methanol (^{13}C, 99%)	neat	1 g, 5 g
DLM-1211	Methanol (D, 98%)	neat	5 g
DLM-1209	Methanol (D_2, 98%)	neat	5 g
CDLM-1035	Methanol (^{13}C, 99%; D_3, 98%)	Please inquire	Please inquire
DLM-651	Methyl formate (formyl-D, 99%)	neat	5 g, 10 g
CDLM-11829	6-Methylmercaptopurine ($^{13}C_3$, 98%; D_3, 98%) CP 95%	neat	1 mg
CLM-9754	Myricetin (2,3,4-$^{13}C_3$, 99%) CP 95%	neat	1 mg
CNLM-11821	L-Norepinephrine·HCl (1,2-$^{13}C_2$, 99%; ^{15}N, 98%)	neat	0.1 g
CLM-7831	(±)-Pantoprazole, sodium salt, sesquihydrate (pyridyl-4-methoxy-^{13}C, 98%)	neat	Please inquire
CLM-10408	*N*-Phenyl-1-napthylamine (phenyl-$^{13}C_6$, 98%)	neat	1 mg
CLM-10409	*N*-Phenyl-2-napthylamine (phenyl-$^{13}C_6$, 98%)	neat	1 mg
DLM-9842	*N*-Phosphorylethanolamine (1,1,2,2-D_4, 98%)	Please inquire	Please inquire
NLM-765	Potassium nitrate (^{15}N, 99%)	neat	1 g
NLM-765-10	Potassium nitrate (^{15}N, 10%)	neat	Please inquire
CLM-222	Potassium thiocyanate (^{13}C, 95%) CP 95%	neat	0.5 g, 1 g
CNLM-3952	Potassium thiocyanate (^{13}C, 99%; ^{15}N, 98%)	neat	0.5 g

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Other Compounds *(continued)*

Catalog No.	Description	Concentration	Unit Size
DLM-11667	Ractopamine·HCl (1-methyl-D_3-propyl-1,2,2-D_3, 98%) CP 95%	neat	1 mg
DLM-11668	Ractopamine·HCl (2-hydroxyethyl-1,1,2-D_3, 98%) CP 95%	neat	1 mg
DLM-10542	Resorufin (D_6, 98%) CP 96%	neat	10 mg, 50 mg
CLM-9259	Resveratrol (4-hydroxyphenyl-$^{13}C_6$, 99%)	neat	1 mg, 5 mg, 10 mg
DLM-3579	Serotonin creatinine sulfate complex ($\alpha,\alpha,\beta,\beta$-$D_4$, 98%)	neat	Please inquire
CLM-441	Sodium bicarbonate (^{13}C, 99%)	neat	1 g, 5 g
CLM-3780	Sodium dichloroacetate ($^{13}C_2$, 99%)	neat	Please inquire
CLM-9676	Sodium isopropyl carbonate (carbonyl-^{13}C, 99%)	neat	Please inquire
CLM-1579	Sodium L-lactate ($^{13}C_3$, 98%) 20% w/w in water	neat	1 g
NLM-157	Sodium nitrate (^{15}N, 98%)	neat	1 g, 5 g
CLM-3046	Thiourea (^{13}C, 99%)	neat	0.5 g
CNLM-4818	Thiourea (^{13}C, 99%; $^{15}N_2$, 98%)	neat	0.5 g
CLM-10417	Toxoflavin (3,4α,5,8α-$^{13}C_4$, 98%) CP 95%	neat	1 mg
DLM-4779	Trimethylamine *N*-oxide (D_9, 98%)	neat	1 g
CLM-796	Vanillic acid (carboxyl-^{13}C, 99%)	neat	0.1 g
CLM-1867	Vanillic acid (ring-$^{13}C_6$, 99%)	neat	0.1 g

For a complete product listing, please visit **isotope.com**.

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PeptiQuant™ Plus Assay Kits

Researchers in academia and life science industries continue to adopt a targeted, bottom-up MS-based workflow for protein biomarker evaluation. Biomarker verification/validation requires absolute quantification of surrogate peptides in the sample matrix, a requirement that is best achieved using well-characterized standards. To ensure robust quantitative measurement, quality control (QC) checks should be routinely performed. CIL offers a collection of PeptiQuant™ Assay Kits (from MRM Proteomics Inc.) for QC and biomarker assessment using bottom-up LC-MS/MS methodologies. The QC kits are designed to evaluate the performance of an LC-MS platform, either alone or in combination with a human or mouse plasma proteomic workflow. The biomarker assessment kits (BAKs) are intended to help researchers screen target panels of candidate protein disease biomarkers in human or mouse plasma samples. Platform-specific kits are listed below.

Quality Control (QC) Kits

Catalog No.	Description	Unit Size
LCMSP-QC-6490-INJ	PeptiQuant Plus Human Plasma Daily QC Kit for Agilent 6490 QqQ and 1290 UPLC	10, 20, or 50 injections
LCMSP-QC-6495-INJ	PeptiQuant Plus Human Plasma Daily QC Kit for Agilent 6495 QqQ and 1290 UPLC	10, 20, or 50 injections
LCMSP-QC-6500-INJ	PeptiQuant Plus Human Plasma Daily QC Kit for SCIEX QTRAP® 6500 and 1290 UPLC	10, 20, or 50 injections
LCMSP-QC-QE-INJ	PeptiQuant Plus Human Plasma Daily QC Kit for Thermo Scientific™ Q Exactive™ Plus and 1290 UPLC	10, 20, or 50 injections
WFPK-A6490-P	PeptiQuant Plus Human Plasma Workflow QC Kit for Agilent 6490 QqQ and 1290 UPLC	1 or 2 runs
WFPK-A6495-P	PeptiQuant Plus Human Plasma Workflow QC Kit for Agilent 6495 QqQ and 1290 UPLC	1 or 2 runs
WFPK-SC6500-P	PeptiQuant Plus Human Plasma Workflow QC Kit for SCIEX QTRAP 6500 and 1290 UPLC	1 or 2 runs
WFPK-QE-P	PeptiQuant Plus Human Plasma Workflow QC Kit for Thermo Scientific Q Exactive Plus and 1290 UPLC	1 or 2 runs

Biomarker Assessment Kits (BAKs)

Human		
BAK-A6490-125	PeptiQuant Plus Human Plasma Proteomics Kit for Agilent 6490 QqQ and 1290 UPLC	20, 50, or 100 samples
BAK-A6495-125	PeptiQuant Plus Human Plasma Proteomics Kit for Agilent 6495 QqQ and 1290 UPLC	20, 50, or 100 samples
BAK-SC6500-125	PeptiQuant Plus Human Plasma Proteomics Kit for SCIEX QTRAP 6500 and 1290 UPLC	20, 50, or 100 samples
BAK-QE-125	PeptiQuant Plus Human Plasma Proteomics Kit for Thermo Scientific Q Exactive Plus and 1290 UPLC	20, 50, or 100 samples
BAK-TQXS-125	PeptiQuant Plus Human Plasma Proteomics Kit for Waters Xevo TQ-XS and Acquity UPLC I	20, 50, or 100 samples
BAK-A6490-270	Expanded PeptiQuant Plus Human Plasma Proteomics Kit for Agilent 6490 QqQ and 1290 UPLC	20, 50, or 100 samples
BAK-A6495-270	Expanded PeptiQuant Plus Human Plasma Proteomics Kit for Agilent 6495 QqQ and 1290 UPLC	20, 50, or 100 samples
BAK-SC6500-270	Expanded PeptiQuant Plus Human Plasma Proteomics Kit for SCIEX QTRAP 6500 and 1290 UPLC	20, 50, or 100 samples
BAK-QE-270	Expanded PeptiQuant Plus Human Plasma Proteomics Kit for Thermo Scientific Q Exactive Plus and 1290 UPLC	20, 50, or 100 samples
BAK-A6490-CNCR50	DiseaseQuant Human Tissue Cancer Pathway Proteomics Kit for Agilent 6490 QqQ	50 or 100 samples
BAK-A6495-CNCR50	DiseaseQuant Human Tissue Cancer Pathway Proteomics Kit for Agilent 6495 QqQ	50 or 100 samples
BAK-QE-CNCR50	DiseaseQuant Human Tissue Cancer Pathway Proteomics Kit for Thermo Scientific Q Exactive Plus	50 or 100 samples
Mouse		
M-BAK-A6490-125*	PeptiQuant Plus Mouse Plasma Proteomics Kit for Agilent 6490 QqQ and 1290 UPLC	20, 50, or 100 samples
M-BAK-A6495-125*	PeptiQuant Plus Mouse Plasma Proteomics Kit for Agilent 6495 QqQ and 1290 UPLC	20, 50, or 100 samples
M-BAK-6545-125-2	PeptiQuant Plus Mouse Plasma Proteomics Kit for Agilent 6545 Q-TOF and 1290 UPLC	20, 50, or 100 samples
M-BAK-SC6500-125*	PeptiQuant Plus Mouse Plasma Proteomics Kit for SCIEX QTRAP 6500 and 1290 UPLC	20, 50, or 100 samples
M-BAK-QE-125*	PeptiQuant Plus Mouse Plasma Proteomics Kit for Thermo Scientific Q Exactive Plus and 1290 UPLC	20, 50, or 100 samples

*Alternate sets of 125 target proteins are available (see **product flyer** for details). PeptiQuant is a trademark of MRM Proteomics Inc.

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Pharmaceutical and Personal Care Products

Concerns about environmental and human exposure to pharmaceutical and personal care products (PPCPs) has grown significantly over the years. The classification of PPCPs encompasses a broad range of chemicals, ranging from antibiotics to hormones to food and drinking water impurities. Isotope-labeled standards are necessary in the qualitative/quantitative analysis of PPCPs, especially in complex matrices such as sewage sludge and biosamples, as well as in applications where ion suppression or enhancement are of high concern. CIL, with guidance from leading laboratories around the world, works diligently to produce high-quality, native and stable isotope-labeled standards for analysis of PPCPs. Please see isotope.com for the listing and details of our PPCP standards.

n-Alkane Standards

Catalog No.	Description	Concentration	Unit Size
DLM-133	*n*-Decane (D_{22}, 99%)	neat	1 g, 5 g
DLM-338	*n*-Dodecane (D_{26}, 98%)	neat	1 g, 5 g
DLM-2724	*n*-Dotriacontane (D_{66}, 98%)	neat	1 g
DLM-2208	*n*-Eicosane (D_{42}, 98%)	neat	0.5 g, 1 g
DLM-1342	*n*-Heptadecane (D_{36}, 98%) CP 95% (5% related perdeuterated alkanes)	neat	1 g, 5 g
DLM-423	*n*-Heptane (D_{16}, 98%)	neat	1 g, 5 g
DLM-203	*n*-Hexadecane (D_{34}, 98%)	neat	0.1 g, 1 g, 5 g
DLM-139	*n*-Hexane (D_{14}, 98%)	neat	1 g, 5 g
DLM-2634	*n*-Hexatriacontane (D_{74}, 98%)	neat	1 g
DLM-1346	*n*-Nonadecane (D_{40}, 98%)	neat	0.1 g, 1 g
DLM-2438	*n*-Nonane (D_{20}, 98%)	neat	1 g, 5 g
DLM-1283	*n*-Pentadecane (D_{32}, 98%)	neat	1 g, 5 g
DLM-1213	*n*-Pentane (D_{12}, 98%)	neat	1 g, 5 g
DLM-50	*n*-Octane (D_{18}, 99%)	neat	1 g, 5 g
DLM-2209	*n*-Tetracosane (D_{50}, 98%)	neat	0.5 g
DLM-670	*n*-Tetradecane (D_{30}, 98%)	neat	1 g, 5 g
DLM-2210	*n*-Triacontane (D_{62}, 98%) CP 97%	neat	0.5 g
DLM-3336	*n*-Tricosane (D_{48}, 98%)	neat	1 g
DLM-1354	*n*-Tridecane (D_{28}, 98%)	neat	1 g, 5 g

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Bisphenol Standards

Catalog No.	Description	Concentration	Unit Size
CLM-4325	Bisphenol A (ring-$^{13}C_{12}$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7106	Bisphenol A (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-9193	Bisphenol A diglycidyl ether (BADGE) (diglycidyl-D_{10}, 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9857	Bisphenol A diglycidyl ether (BADGE) (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9831	Bisphenol A β-D-glucuronide (unlabeled) CP 90%	100 µg/mL in methanol	1.2 mL
ULM-9832	Bisphenol A bis-(β-D-glucoronide), disodium salt (unlabeled) CP 90%	100 µg/mL in methanol	1.2 mL
ULM-9833	Bisphenol A bissulfate, disodium salt (unlabeled) CP 90%	100 µg/mL in methanol	1.2 mL
CLM-9776	Bisphenol AF (ring-$^{13}C_{12}$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-9779	Bisphenol AF (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-9830	Bisphenol AP (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9851	Bisphenol B (ring-$^{13}C_{12}$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9852	Bisphenol B (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9826	Bisphenol E (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-9866	Bisphenol F (ring-$^{13}C_{12}$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9827	Bisphenol F (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-9867	Bisphenol F diglycidyl ether (BFDGE) (ring-$^{13}C_{12}$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9868	Bisphenol F diglycidyl ether (BFDGE) (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9829	Bisphenol P (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9319	Bisphenol S ($^{13}C_{12}$, 98%)	100 µg/mL in methanol	1.2 mL
ULM-9320	Bisphenol S (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-9828	Bisphenol Z (unlabeled)	100 µg/mL in methanol	1.2 mL

Chlorinated Paraffin Standards

Catalog No.	Description	Concentration	Unit Size
CLM-9000	1,5,5,6,6,10-Hexachlorodecane ($^{13}C_{10}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-8917	1,5,5,6,6,10-Hexachlorodecane (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-9679	1,1,1,3,10,12,12,12-Octachlorododecane ($^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-9485	1,1,1,3,10,12,12,12-Octachlorododecane (unlabeled)	100 µg/mL in nonane	1.2 mL

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Endocrine-Disrupting Compounds and Xenoestrogen Standards

Catalog No.	Description	Concentration	Unit Size
CLM-1643	Acenaphthene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
DLM-108	Acenaphthene (D_{10}, 98%)	200 µg/mL in isooctane	1.2 mL
ULM-7413	Acenaphthene (unlabeled)	200 µg/mL in isooctane	1.2 mL
CLM-3727	Alachlor (ring-$^{13}C_6$, 99%) CP 96%	100 µg/mL in nonane	1.2 mL
ULM-10027	Alachlor (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4725	Aldrin ($^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-1333	Anthracene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
DLM-102	Anthracene (D_{10}, 98%)	200 µg/mL in isooctane	1.2 mL
ULM-7412	Anthracene (unlabeled)	200 µg/mL in isooctane	1.2 mL
CLM-3737-MT	Atrazine (ring-$^{13}C_3$, 99%)	100 µg/mL in MTBE	1.2 mL
CLM-3737	Atrazine (ring-$^{13}C_3$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-3602	Benz[*a*]anthracene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
DLM-610	Benz[*a*]anthracene (D_{12}, 98%)	200 µg/mL in isooctane	1.2 mL
ULM-2415-I	Benz[*a*]anthracene (unlabeled)	200 µg/mL in isooctane	1.2 mL
CLM-2722	Benzo[*a*]pyrene ($^{13}C_4$, 99%)	100 µg/mL in nonane	1.2 mL
DLM-258	Benzo[*a*]pyrene (D_{12}, 97%)	200 µg/mL in isooctane	1.2 mL
ULM-2412-I	Benzo[*a*]pyrene (unlabeled)	200 µg/mL in isooctane	1.2 mL
CLM-6170	Benzo[*e*]pyrene ($^{13}C_4$, 99%)	100 µg/mL in nonane	1.2 mL
DLM-257	Benzo[*e*]pyrene (D_{12}, 98%)	200 µg/mL in isooctane	1.2 mL
ULM-7423	Benzo[*e*]pyrene (unlabeled)	200 µg/mL in isooctane	1.2 mL
CLM-3599	Benzo[*b*]fluoranthene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
DLM-2136	Benzo[*b*]fluoranthene (D_{12}, 98%)	200 µg/mL in isooctane	1.2 mL
ULM-2416-I	Benzo[*b*]fluoranthene (unlabeled)	200 µg/mL in isooctane	1.2 mL
CLM-9590	Benzo[*j*]fluoranthene ($^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-2411	Benzo[*j*]fluoranthene (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-3756	Benzo[*k*]fluoranthene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
DLM-1923	Benzo[*k*]fluoranthene (D_{12}, 98%)	200 µg/mL in isooctane	1.2 mL
CLM-9730	Benzo[*c*]phenanthrene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-8155	Benzo[*c*]phenanthrene (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-183	Benzophenone (D_{10}, 98%)	100 µg/mL in nonane	1.2 mL
ULM-8303	Benzophenone (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-9849	Benzyl paraben (benzyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9850	Benzyl paraben (benzyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
DLM-1369	Benzyl butyl phthalate (ring-D_4, 98%)	100 µg/mL in nonane	1.2 mL
CLM-4675	Bis(2-ethylhexyl) adipate (adipate-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
DLM-1368	Bis(2-ethylhexyl) phthalate (ring-D_4, 98%)	100 µg/mL in nonane	1.2 mL
ULM-6241	Bis(2-ethylhexyl) phthalate (unlabeled)	1000 µg/mL in nonane	1.2 mL
CLM-4325	Bisphenol A (ring-$^{13}C_{12}$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7106	Bisphenol A (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-9319	Bisphenol S ($^{13}C_{12}$, 98%)	100 µg/mL in methanol	1.2 mL
ULM-9320	Bisphenol S (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9776	Bisphenol AF (ring-$^{13}C_{12}$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-9779	Bisphenol AF (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-4674	*n*-Butylbenzene (ring-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-8285	*n*-Butyl paraben (*n*-butyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-8287	*n*-Butyl paraben (*n*-butyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-4682	Carbaryl (ring-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-8096	Carbaryl (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-1911	Carbofuran (ring-$^{13}C_6$, 99%)	100 µg/mL in 1,4-dioxane	1.2 mL
ULM-7419	Carbofuran (unlabeled)	100 µg/mL in 1,4-dioxane	1.2 mL
CLM-4792	*trans*-Chlordane (γ) ($^{13}C_{10}$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-4814	Chlordecone (kepone) ($^{13}C_{10}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-2301	Chlordecone (kepone) (unlabeled)	100 µg/mL in nonane	1.2 mL

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Catalog No.	Description	Concentration	Unit Size
CLM-4758	Chlordene ($^{13}C_{10}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7443	Chlordene (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-4360	Chlorpyrifos (diethyl-D_{10}, 99%)	100 µg/mL in nonane	1.2 mL
CLM-3757	Chrysene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
DLM-261	Chrysene (D_{12}, 98%)	200 µg/mL in toluene-D_8	1.2 mL
ULM-7424	Chrysene (unlabeled)	200 µg/mL in toluene	1.2 mL
CLM-7293	Cyfluthrin (phenoxy-$^{13}C_6$, 99%) mix of stereoisomers	100 µg/mL in nonane	1.2 mL
ULM-7454	Cyfluthrin (unlabeled) mix of stereoisomers	100 µg/mL in nonane	1.2 mL
CLM-7292	Cypermethrin (phenoxy-$^{13}C_6$, 99%) mix of stereoisomers	100 µg/mL in nonane	1.2 mL
ULM-7453	Cypermethrin (unlabeled) mix of stereoisomers	100 µg/mL in nonane	1.2 mL
DLM-4461	Daidzein (3′,5′,8-D_3, 97%)	60 µg/mL in acetonitrile-D_3	2 × 1.2 mL
ULM-4459	Daidzein (unlabeled)	60 µg/mL in acetonitrile	1.2 mL
CLM-6999	2,4′-DDD (ring-$^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
DLM-3533	4,4′-DDD (ring-D_8, 98%)	100 µg/mL in nonane	1.2 mL
CLM-4693	2,4′-DDE (ring-$^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-6251	2,4′-DDE (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-1627	4,4′-DDE (ring-$^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-4692	2,4′-DDT (ring-$^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-6134	2,4′-DDT (unlabeled) CP 97%	100 µg/mL in nonane	1.2 mL
CLM-1281	4,4′-DDT (ring-$^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-6135	4,4′-DDT (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-1148	Diazinon (diethyl-D_{10}, 98%)	100 µg/mL in nonane	1.2 mL
DLM-1367	Di-*n*-butyl phthalate (ring-D_4, 98%)	100 µg/mL in nonane	1.2 mL
ULM-7466	Di-*n*-butyl phthalate (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-2943	2,6-Di(*tert*-butyl)-4-methylphenol (D_{21}, 98%) stabilized with BHT	100 µg/mL in nonane	1.2 mL
CLM-126	1,2-Dichlorobenzene ($^{13}C_6$, 99%)	100 µg/mL in isooctane	1.2 mL
ULM-7415	1,2-Dichlorobenzene (unlabeled)	100 µg/mL in isooctane	1.2 mL
CLM-4484	1,3-Dichlorobenzene ($^{13}C_6$, 99%)	100 µg/mL in isooctane	1.2 mL
ULM-7431	1,3-Dichlorobenzene (unlabeled)	100 µg/mL in isooctane	1.2 mL
DLM-1669	2,4-Dichlorophenol (ring-D_3, OD, 98%)	neat	0.1 g
CLM-1858	2,4-Dichlorophenoxyacetic acid (ring-$^{13}C_6$, 99%)	100 µg/mL in acetonitrile	1.2 mL
CLM-4726	Dieldrin ($^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7230	Dieldrin (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-1629	Diethyl phthalate (ring-D_4, 98%)	100 µg/mL in nonane	1.2 mL
ULM-6174	Diethyl phthalate (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4669	Di-*n*-hexyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7434	Di-*n*-hexyl phthalate (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-7151	Dimethoate (*O,O*-dimethyl-D_6, 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7972	Dimethoate (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-4668	Di-*n*-pentyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7433	Di-*n*-pentyl phthalate (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4671	Di-*n*-propyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-6025	Endosulfan I ($^{13}C_9$, 99%) CP 95%	100 µg/mL in nonane	1.2 mL
DLM-2862	Endosulfan I (D_4, 97%)	100 µg/mL in nonane	1.2 mL
ULM-7447	Endosulfan I (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-6026	Endosulfan II ($^{13}C_9$, 99%) CP 95%	100 µg/mL in nonane	1.2 mL
ULM-7448	Endosulfan II (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-7531	Endosulfan sulfate ($^{13}C_9$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7990	Endosulfan sulfate (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4782	Endrin ($^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7444	Endrin (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4815	Endrin aldehyde ($^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-4815	Endrin aldehyde ($^{13}C_{12}$, 99%) CP 90%	neat	50 µg

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Endocrine-Disrupting Compounds and Xenoestrogen Standards *(continued)*

Catalog No.	Description	Concentration	Unit Size
ULM-8958	Endrin aldehyde (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4816	Endrin ketone ($^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-4816	Endrin ketone ($^{13}C_{12}$, 99%) CP 95%	neat	50 µg
ULM-8956	Endrin ketone (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-3374	Epichlorohydrin ($^{13}C_3$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7403	Epichlorohydrin (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-9761	Ethyl paraben (ethyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9760	Ethyl paraben (ethyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
DLM-4460	Genistein (3',5',6,8-D_4, 94%)	100 µg/mL in acetonitrile	1.2 mL
CNLM-4666	Glyphosate (2-^{13}C, 99%; ^{15}N, 98%) CP 96%	100 µg/mL in water	1.2 mL, 10 mL
CNLM-4666-10X	Glyphosate (2-^{13}C, 99%; ^{15}N, 98%) CP 96%	1000 µg/mL in water	1.2 mL
CNLM-6792	Glyphosate ($^{13}C_3$, 99%; ^{15}N, 98%) CP 95%	100 µg/mL in water	1.2 mL
ULM-6876	Glyphosate (unlabeled)	100 µg/mL in water	1.2 mL
CLM-2482	α-HCH (α-BHC) ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-3623	β-HCH (β-BHC) ($^{13}C_6$, 99%)	50 µg/mL in nonane	2 × 1.2 mL
CLM-1282	γ-HCH (γ-BHC) (lindane) ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-4759	Heptachlor ($^{13}C_{10}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-2424	Heptachlor (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4734	*cis*-Heptachlor epoxide ($^{13}C_{10}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-2425	*cis*-Heptachlor epoxide (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-10451	*n*-Heptyl paraben (*n*-heptyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-10442	*n*-Heptyl paraben (*n*-heptyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
EB-5162	2,2',4,4',5,5'-HexaBB (PBB-153) ($^{13}C_{12}$, 99%)	40 ±4 µg/mL in nonane	1.2 mL
PBB-153-CS	2,2',4,4',5,5'-HexaBB (PBB 153) (unlabeled) Certified Standard	100 µg/mL in isooctane	1.2 mL
CLM-351	Hexachlorobenzene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-6130	Hexachlorobenzene (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-9000	1,5,5,6,6,10-Hexachlorodecane ($^{13}C_{10}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-8917	1,5,5,6,6,10-Hexachlorodecane (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-9429	Hp-Sed (unlabeled)	10 µg/mL in nonane	1.2 mL
ULM-9428	Hx-Sed (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-3600	Indeno[1,2,3-cd]pyrene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
DLM-2148	Indeno[1,2,3-cd]pyrene (D_{12}, 98%)	200 µg/mL in isooctane	1.2 mL
CLM-9847	Isobutyl paraben (isobutyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9848	Isobutyl paraben (isobutyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-4727	Isodrin ($^{13}C_{12}$, 99%) CP 95%	100 µg/mL in nonane	1.2 mL
ULM-7442	Isodrin (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-9845	Isopropyl paraben (isopropyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9846	Isopropyl paraben (isopropyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
DLM-4476	Malathion (D_{10}, 99%)	100 µg/mL in nonane	1.2 mL
ULM-8122	Malathion (unlabeled)	100 µg/mL in nonane	1.2 mL
CNLM-8150	Melamine ($^{13}C_3$, 99%; amino-$^{15}N_3$, 98%)	100 µg/mL in water	1.2 mL
CNLM-8150-10X	Melamine ($^{13}C_3$, 99%; amino-$^{15}N_3$, 98%)	1000 µg/mL in water	1.2 mL
ULM-8156	Melamine (unlabeled)	100 µg/mL in water	1.2 mL
CNLM-7148	Methomyl (acetohydroxamate-$^{13}C_2$, 99%; ^{15}N, 98%) CP 97%	100 µg/mL in methanol	1.2 mL
ULM-8639	Methomyl (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-4683	Methoxychlor (ring-$^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7440	Methoxychlor (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-8249	Methyl paraben (methyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-8250	Methyl paraben (methyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-3712	Metolachlor (ring-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7314	Metolachor (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4813	Mirex ($^{13}C_{10}$, 99%) CP 98%	100 µg/mL in nonane	1.2 mL
ULM-2427	Mirex (unlabeled)	100 µg/mL in nonane	1.2 mL

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Catalog No.	Description	Concentration	Unit Size
DLM-8246	Musk ketone (butyl-D_9, 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8290	Musk ketone (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-8278	Musk xylene (butyl-D_9, 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9957	Musk xylene (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-1332	Naphthalene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7425	Naphthalene (unlabeled)	200 µg/mL in isooctane	1.2 mL
CLM-3914	DL-Nicotine (3',4',5'-$^{13}C_3$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9547	Nicotine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-3913-S	4-Nitrotoluene (ring-$^{13}C_6$, 99%)	1 mg/mL in acetonitrile	1 mL
ULM-3891	4-Nitrotoluene (unlabeled)	1 mg/mL in acetonitrile	1.2 mL
CLM-4811	*cis*-Nonachlor ($^{13}C_{10}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7445	*cis*-Nonachlor (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4735	*trans*-Nonachlor ($^{13}C_{10}$, 98%)	100 µg/mL in nonane	1.2 mL
ULM-7229	*trans*-Nonachlor (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4306	*p-n*-Nonylphenol (ring-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-4306-M	*p-n*-Nonylphenol (ring-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-4559	*p-n*-Nonylphenol (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-4559-M	*p-n*-Nonylphenol (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-4307	*p-n*-Nonylphenol diethoxylate (ring-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-4307-M	*p-n*-Nonylphenol diethoxylate (ring-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-4521	*p-n*-Nonylphenol diethoxylate (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-4521-M	*p-n*-Nonylphenol diethoxylate (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-7147	Nonylphenol diethoxylate (unlabeled) branched isomers	100 µg/mL in nonane	1.2 mL
CLM-4512	*p-n*-Nonylphenol monoethoxylate (ring-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-4512-M	*p-n*-Nonylphenol monoethoxylate (ring-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-4520	*p-n*-Nonylphenol monoethoxylate (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-4520-M	*p-n*-Nonylphenol monoethoxylate (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-7146	Nonylphenol monoethoxylate (unlabeled) branched isomers	100 µg/mL in nonane	1.2 mL
CLM-4516	*p-n*-Nonylphenol triethoxylate (ring-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-9679	1,1,1,3,10,12,12,12-Octachlorododecane ($^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-9485	1,1,1,3,10,12,12,12-Octachlorododecane (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4729	Oxychlordane ($^{13}C_{10}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-6139	Oxychlordane (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-2970	Parathion (diethyl-D_{10}, 98%)	100 µg/mL in nonane	1.2 mL
ULM-8144	Parathion (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-7930	Parlar 26 ($^{13}C_{10}$, 99%)	10 µg/mL in nonane	1.2 mL
ULM-7828	Parlar 26 (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-8705	Parlar 32 ($^{13}C_{10}$, 99%)	10 µg/mL in nonane	1.2 mL
ULM-8665	Parlar 32 (unlabeled)	10 µg/mL in nonane	1.2 mL
ULM-9005	Parlar 38 (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-8719	Parlar 39 ($^{13}C_{10}$, 99%)	10 µg/mL in nonane	1.2 mL
ULM-8767	Parlar 39 (unlabeled)	10 µg/mL in nonane	1.2 mL
ULM-9431	Parlar 41 (unlabeled)	10 µg/mL in nonane	1.2 mL
ULM-9432	Parlar 44 (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-7931	Parlar 50 (13C_{10}, 99%)	10 µg/mL in nonane	1.2 mL
ULM-7829	Parlar 50 (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-7932	Parlar 62 ($^{13}C_{10}$, 99%)	10 µg/mL in nonane	1.2 mL
ULM-7830	Parlar 62 (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-8720	Parlar 69 ($^{13}C_{10}$, 99%)	10 µg/mL in nonane	1.2 mL
ULM-8768	Parlar 69 (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-8721	Parlar 70 ($^{13}C_{10}$, 99%)	10 µg/mL in nonane	1.2 mL
ULM-8769	Parlar 70 (unlabeled)	10 µg/mL in nonane	1.2 mL

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
For research use only. Not for use in diagnostic procedures.

Endocrine-Disrupting Compounds and Xenoestrogen Standards *(continued)*

Catalog No.	Description	Concentration	Unit Size
EC-1404-3	PCB-77 (3,3′,4,4′-tetraCB) ($^{13}C_{12}$, 99%)	40 ± 2 µg/mL in nonane	3 mL
EC-1425-3	PCB-126 (3,3′,4,4′,5-pentaCB) ($^{13}C_{12}$, 99%)	40 ± 2 µg/mL in nonane	3 mL
EC-1416-3	PCB-169 (3,3′,4,4′,5,5′-hexaCB) ($^{13}C_{12}$, 99%)	40 ± 2 µg/mL in nonane	3 mL
CLM-2050	Pentachlorobenzene ($^{13}C_6$, 99%)	100 µg/mL in isooctane	1.2 mL
ULM-7234	Pentachlorobenzene (unlabeled)	100 µg/mL in isooctane	1.2 mL
CLM-1955	Pentachloronitrobenzene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7597	Pentachloronitrobenzene (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-661	Pentachlorophenol ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-6894	Pentachlorophenol (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-10450	*n*-Pentyl paraben (*n*-pentyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-10441	*n*-Pentyl paraben (*n*-pentyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
ULM-10655	Perfluorooctanesulfonate (PFOS) (unlabeled) mix of isomers	50 µg/mL in methanol	1.2 mL
CLM-8505	Perfluorooctanesulfonate (PFOS), sodium salt ($^{13}C_8$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-9001	Perfluorooctanesulfonate (PFOS), sodium salt (unlabeled)	50 µg/mL in methanol	1.2 mL
CLM-8005	Perfluorooctanoic acid (PFOA) ($^{13}C_8$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-7451	Perfluorooctanoic acid (PFOA) (unlabeled) CP 96%	50 µg/mL in methanol	1.2 mL
CLM-7322	*cis*-Permethrin (phenoxy-$^{13}C_6$, 99%)	50 µg/mL in nonane	1.2 mL
ULM-8526	*cis*-Permethrin (unlabeled)	50 µg/mL in nonane	1.2 mL
CLM-7323	*trans*-Permethrin (phenoxy-$^{13}C_6$, 99%)	50 µg/mL in nonane	1.2 mL
ULM-8527	*trans*-Permethrin (unlabeled)	50 µg/mL in nonane	1.2 mL
CLM-2451	Phenanthrene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
DLM-371	Phenanthrene (D_{10}, 98%)	200 µg/mL in isooctane	1.2 mL
ULM-7427	Phenanthrene (unlabeled)	200 µg/mL in isooctane	1.2 mL
DLM-695	Phenol (ring-D_5, 98%)	neat	1 g, 5 g
DLM-7141	Propoxur (isopropyl-D_7, 98%)	100 µg/mL in nonane	1.2 mL
ULM-9765	Propoxur (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-9763	*n*-Propyl paraben (*n*-propyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9762	*n*-Propyl paraben (*n*-propyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-3739	Simazine (ring-$^{13}C_3$, 99%)	100 µg/mL in methanol	1.2 mL
CLM-3739-A	Simazine (ring-$^{13}C_3$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7893	Simazine (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-7893-A	Simazine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-4694	Tetrabromobisphenol A (ring-$^{13}C_{12}$, 99%)	50 µg/mL in methanol	1.2 mL
CLM-4694-T	Tetrabromobisphenol A (ring-$^{13}C_{12}$, 99%)	50 µg/mL in toluene	1.2 mL
ULM-8734	Tetrabromobisphenol A (unlabeled)	50 µg/mL in methanol	1.2 mL
ULM-8734-T	Tetrabromobisphenol A (unlabeled)	50 µg/mL in toluene	1.2 mL
ED-900	2,3,7,8-Tetrachlorodibenzo-*p*-dioxin ($^{13}C_{12}$, 99%)	50 µg/mL in nonane	1.2 mL
ED-901	2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (unlabeled)	50 µg/mL in nonane	4 × 1.2 mL
DLM-7136	Tributyltin chloride (D_{27}, 98%)	100 µg/mL in MeCl-D_2	1.2 mL
ULM-8061	Tributyltin chloride (unlabeled) CP 97%	100 µg/mL in MeCl	1.2 mL
CLM-4551	2,4,5-Trichlorophenoxyacetic acid (ring-$^{13}C_6$, 99%)	100 µg/mL in MeCl	1.2 mL
ULM-7213	2,4,5-Trichlorophenoxyacetic acid (unlabeled)	100 µg/mL in MeCl	1.2 mL
CLM-9049	3,5,6-Trichloro-2-pyridinol (TCPY) (4,5,6-$^{13}C_3$, 99%) CP 97%	100 µg/mL in acetonitrile	1.2 mL
ULM-9204	3,5,6-Trichloro-2-pyridinol (TCPY) (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-6779	Triclosan (2',4,4'-trichloro-2-hydroxydiphenyl ether) ($^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-6779-MT	Triclosan (2′,4,4′-trichloro-2-hydroxydiphenyl ether) ($^{13}C_{12}$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-6935	Triclosan (2',4,4'-trichloro-2-hydroxydiphenyl ether) (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-6935-MT	Triclosan (2′,4,4′-trichloro-2-hydroxydiphenyl ether) (unlabeled)	100 µg/mL in MTBE	1.2 mL
DLM-4479	Trifluralin (di-*n*-propyl-D_{14}, 98%)	100 µg/mL in nonane	1.2 mL
DLM-4444	Urethane (ethyl carbamate) (ethyl-D_5, 98%)	neat	0.1 g
DLM-167	Vinyl chloride (D_3, 98%)	50 µg/mL in methanol-OD	1.2 mL
ULM-8224	Vinyl chloride (unlabeled)	50 µg/mL in methanol	1.2 mL

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Explosive Standards

Catalog No.	Description	Concentration	Unit Size
CLM-1519	1,3-Dinitrobenzene ($^{13}C_6$, 99%)	1 mg/mL in acetonitrile	1 mL
CLM-1519	1,3-Dinitrobenzene ($^{13}C_6$, 99%)	neat	0.1 g
ULM-3850	1,3-Dinitrobenzene (unlabeled)	1 mg/mL in acetonitrile	1.2 mL
DLM-299	2,4-Dinitrophenol (ring-D_3, 98%) contains 0.35 mg/mL deuterium oxide	1 mg/mL in methanol-OD	10 mL
ULM-8706	2,4-Dinitrophenol (unlabeled) contains 0.35 mg/mL water	1 mg/mL in methanol	10 mL
DLM-2207	2,4-Dinitrotoluene (ring-D_3, 98%)	1 mg/mL in acetonitrile	1 mL
ULM-3888	2,4-Dinitrotoluene (unlabeled)	1 mg/mL in acetonitrile	1 mL
DLM-1939	2,6-Dinitrotoluene (methyl-D_3, 98%)	1 mg/mL in acetonitrile	1 mL
ULM-3889	2,6-Dinitrotoluene (unlabeled)	1 mg/mL in acetonitrile	1 mL
CNLM-7963	HMX ($^{13}C_4$, 99%; ring-$^{15}N_4$, 98%)	1 mg/mL in acetonitrile	1 mL
ULM-7969	HMX (unlabeled)	1 mg/mL in acetonitrile	1 mL
CLM-675	Nitrobenzene ($^{13}C_6$, 99%)	neat	0.1 g
DLM-294	Nitrobenzene (D_5, 99%)	neat	5 g, 10 g
ULM-3892	Nitrobenzene (unlabeled)	1 mg/mL in acetonitrile	1.2 mL
NLM-814	Nitroglycerin ($^{15}N_3$, 98%)	1 mg/mL in ethanol	1.2 mL
ULM-3893	Nitroglycerin (unlabeled)	1 mg/mL in acetonitrile	1 mL
CLM-3912	2-Nitrotoluene (ring-$^{13}C_6$, 99%)	1 mg/mL in acetonitrile	1 mL
ULM-3890	2-Nitrotoluene (unlabeled)	1 mg/mL in acetonitrile	1.2 mL
CLM-3913	4-Nitrotoluene (ring-$^{13}C_6$, 99%)	1 mg/mL in acetonitrile	1 mL
ULM-3891	4-Nitrotoluene (unlabeled)	1 mg/mL in acetonitrile	1.2 mL
CLM-3846	RDX ($^{13}C_3$, 99%)	1 mg/mL in acetonitrile	1 mL
CNLM-7987	RDX ($^{13}C_3$, 99%; $^{15}N_3$, 98%)	1 mg/mL in acetonitrile	1 mL
ULM-3847	RDX (unlabeled)	1 mg/mL in acetonitrile	1.2 mL
CLM-3848	1,3,5-Trinitrobenzene ($^{13}C_6$, 99%)	1 mg/mL in acetonitrile	1 mL
ULM-3849	1,3,5-Trinitrobenzene (unlabeled)	1 mg/mL in acetonitrile	1.2 mL
CNLM-3643	2,4,6-Trinitrotoluene (TNT) ($^{13}C_7$, 99%; $^{15}N_3$, 98%)	1 mg/mL in benzene (wetted with 33% water by weight)	1 mL
ULM-3845	2,4,6-Trinitrotoluene (TNT) (unlabeled)	1 mg/mL in acetonitrile	1.2 mL

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Food and Drinking Water Impurity Standards

Catalog No.	Description	Concentration	Unit Size
CLM-813	Acrylamide (1,2,3-$^{13}C_3$, 99%) stabilized with 100 ppm hydroquinone	1 mg/mL in methanol	1.2 mL
ULM-6721	Acrylamide (unlabeled) (with 100 ppm hydroquinone)	1 mg/mL in methanol	1.2 mL
DLM-10285	Allyl alcohol (D_5, 98%)	2 mg/mL in methanol	1.2 mL
ULM-10288	Allyl alcholol (unlabeled)	10 mg/mL in methanol	1.2 mL
DLM-7170	1-Aminohydantoin hydrochloride (AHD) (5,5-D_2, 98%)	100 µg/mL in acetonitrile-D_3	1.2 mL
ULM-7188	1-Aminohydantoin hydrochloride (AHD) (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-7171	3-Amino-2-oxazolidone (AOZ) (ring-D_4, 98%)	100 µg/mL in acetonitrile-D_3	1.2 mL
ULM-7189	3-Amino-2-oxazolidone (AOZ) (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-8589	Ammelide (ring-$^{13}C_3$, 99%)	100 µg/mL in water: diethylamine (4:1)	1.2 mL
ULM-8590	Ammelide (unlabeled) CP 92%	100 µg/mL in water: diethylamine (4:1)	1.2 mL
CLM-8316	Ammeline (desethyldesisopropylhydroxyatrazine) (ring-$^{13}C_3$, 99%) CP 94%	100 µg/mL in water: diethylamine (4:1)	1.2 mL
ULM-8323	Ammeline (desethyldesisopropylhydroxyatrazine) (unlabeled)	100 µg/mL in water: diethylamine (4:1)	1.2 mL
CLM-4748	1,6-Anhydro-β-D-glucose (levoglucosan) ($^{13}C_6$, 98%)	100 µg/mL in DMSO	1.2 mL
ULM-8000	1,6-Anhydro-β-D-glucose (levoglucosan) (unlabeled)	100 µg/mL in DMSO	1.2 mL
DLM-1598	*n*-Butanol (D_{10}, 98%)	2 mg/mL in methanol	1.2 mL
ULM-10286	*n*-Butanol (unlabeled)	10 mg/mL in methanol	1.2 mL
DLM-119	(±)-Chloramphenicol (ring-D_4, benzyl-D, 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-6687	(±)-Chloramphenicol (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-263	Chlorobenzene (D, 99%)	2 mg/mL in methanol	1.2 mL
ULM-8138	Chlorobenzene (unlabeled)	2 mg/mL in methanol	1.2 mL
DLM-4633	3-Chloro-1,2-propanediol (propane-D_5, 98%)	1 mg/mL in methanol	1.2 mL
ULM-7998	3-Chloro-1,2-propanediol (unlabeled)	1 mg/mL in methanol	1.2 mL
CNLM-4661	Cyanuric acid ($^{13}C_3$, 99%; $^{15}N_3$, 98%) CP 90%	100 µg/mL in water	1.2 mL
CNLM-4661-10X	Cyanuric acid ($^{13}C_3$, 99%; $^{15}N_3$, 98%) CP 90%	1000 µg/mL in water	1.2 mL
ULM-8157	Cyanuric acid (unlabeled)	100 µg/mL in water	1.2 mL
DLM-1632	Diethylene glycol (D_8, 98%) CP 95%	1 mg/mL in methanol	1.2 mL
ULM-8235	Diethylene glycol (unlabeled)	1 mg/mL in methanol	1.2 mL
CNLM-8150	Melamine ($^{13}C_3$, 99%; amino-$^{15}N_3$, 98%)	100 µg/mL in water	1.2 mL
CNLM-8150-10X	Melamine ($^{13}C_3$, 99%; amino-$^{15}N_3$, 98%)	1000 µg/mL in water	1.2 mL
ULM-8156	Melamine (unlabeled)	100 µg/mL in water	1.2 mL
DLM-4412	(-)-Menthol (1,2,6,6-D_4, 98%)	neat	25 mg
ULM-10287	2-Methoxyethanol (unlabeled)	10 mg/mL in methanol	1.2 mL
CNLM-10424	β-*N*-Methylamino-L-alanine (BMAA) ($^{13}C_3$, 99%; $^{15}N_2$, 98%) Patent No. US 11,370,812 B2	100 µg/mL in 0.1 M HCl	1.2 mL
CNLM-10424	β-*N*-Methylamino-L-alanine (BMAA) ($^{13}C_3$, 99%; $^{15}N_2$, 98%) Patent No. US 11,370,812 B2	neat	0.01 g
ULM-10493	β-*N*-Methylamino-L-alanine (BMAA)·HCl (unlabeled) CP 97%	100 µg/mL in 0.1 M HCl	1.2 mL
ULM-10493	β-*N*-Methylamino-L-alanine (BMAA)·HCl (unlabeled) CP 97%	neat	Please inquire
DLM-2943	2,6-Di(*tert*-butyl)-4-methylphenol (D_{21}, 98%) (BHT)	100 µg/mL in nonane	1.2 mL
ULM-7494	2,6-Di(*tert*-butyl)-4-methylphenol (unlabeled) (BHT)	100 µg/mL in nonane	1.2 mL
NLM-10345	Microcystin-LA ($^{15}N_7$, 98%)	10 µg/mL in methanol: water (1:1)	1.2 mL

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Catalog No.	Description	Concentration	Unit Size
ULM-10346	Microcystin-LA (unlabeled)	10 µg/mL in methanol: water (1:1)	1.2 mL
NLM-10295	Microcystin-LR ($^{15}N_{10}$, 97%)	10 µg/mL in methanol: water (1:1)	1.2 mL
ULM-10342	Microcystin-LR (unlabeled)	10 µg/mL in methanol: water (1:1)	1.2 mL
DLM-10260	Microcystin-LR, ethylated (D_5, 98%)	neat	0.025 mg
NLM-10340	Microcystin-RR ($^{15}N_{13}$, 98%)	10 µg/mL in methanol: water (1:1)	1.2 mL
ULM-10341	Microcystin-RR (unlabeled)	10 µg/mL in methanol: water (1:1)	1.2 mL
NLM-10343	Microcystin-YR ($^{15}N_{10}$, 98%)	10 µg/mL in methanol: water (1:1)	1.2 mL
ULM-10344	Microcystin-YR (unlabeled)	10 µg/mL in methanol: water (1:1)	1.2 mL
DLM-7172	5-(4-Morpholinylmethyl)-3-amino-2-oxazolidinone (AMOZ) (4,4,5,5′,5′-D_5, 98%)	100 µg/mL in acetonitrile-D_3	1.2 mL
ULM-7190	5-(4-Morpholinylmethyl)-3-amino-2-oxazolidinone (AMOZ) (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-2130	*N*-Nitrosodimethylamine (D_6, 98%)	1 mg/mL in methylene chloride-D_2	1 mL
CDLM-7279	*N*-Nitrosodimethylamine ($^{13}C_2$, 99%; D_6, 98%)	1 mg/mL in methylene chloride-D_2	1 mL
ULM-9042	*N*-Nitrosodimethylamine (unlabeled)	1 mg/mL in methylene chloride-D_2	1 mL
OLM-7310	Perchloric acid, sodium salt ($^{18}O_4$, >90%)	100 µg/mL in water	1.2 mL
ULM-7312	Perchloric acid, sodium salt (unlabeled)	100 µg/ml in water	1.2 mL
DLM-1258	L-Phenylalanine (ring-D_5, 98%)	1000 µg/mL in methanol: water (1:1)	1.2 mL
ULM-8205	L-Phenylalanine (unlabeled)	1000 µg/mL in methanol: water (1:1)	1.2 mL
CLM-3733	*o*-Phenylphenol (phenyl-$^{13}C_6$, 99%)	100 µg/ml in nonane	1.2 mL
ULM-7396	*o*-Phenylphenol (unlabeled)	100 µg/ml in nonane	1.2 mL
CLM-3748	*p*-Phenylphenol (phenyl-$^{13}C_6$, 99%) CP 96%	100 µg/mL in nonane	1.2 mL
OLM-10485	Potassium chlorate ($^{18}O_3$, 98%) CP 90%	100 µg/mL in ^{18}O water	1.2 mL
ULM-10486	Potassium chlorate (unlabeled)	100 µg/mL in ^{18}O water	1.2 mL
DLM-1158	Quinoline (D_7, 98%) CP 97%	2 mg/mL in methanol	1.2 mL
ULM-10290	Quinoline (unlabeled)	10 mg/mL in methanol	1.2 mL
OLM-8283	Potassium bromate ($^{18}O_3$, 98%) CP 90%	100 µg/mL in ^{18}O water	1.2 mL
ULM-8451	Potassium bromate (unlabeled)	100 µg/mL in water	1.2 mL
CNLM-7221	Semicarbazide hydrochloride (SEM) (^{13}C, 99%; $^{15}N_2$, 98%)	100 µg/mL in methanol	1.2 mL
ULM-7187	Semicarbazide hydrochloride (SEM) (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-3330	*o*-Toluidine (D_9, 98%)	2 mg/mL in methanol	1.2 mL
ULM-10289	*o*-Toluidine (unlabeled)	10 mg/mL in methanol	1.2 mL
DLM-6083	2,4,6-Trichloroanisole (D_5, 98%)	1 mg/mL in methanol-D	1.2 mL
ULM-7999	2,4,6-Trichloroanisole (unlabeled)	1 mg/mL in methanol	1.2 mL
DLM-2080	1,2,3-Trichloropropane (D_5, 98%) CP 95%	1 mg/mL in methanol	1.2 mL
ULM-6911	1,2,3-Trichloropropane (unlabeled)	1 mg/mL in methanol	1.2 mL
DLM-10255	Uracil (D_4, 98%)	1000 µg/mL in methanol: water (1:1)	1.2 mL
ULM-10256	Uracil (unlabeled)	1000 µg/mL in methanol: water (1:1)	1.2 mL
DLM-4444	Urethane (ethyl carbamate) (ethyl-D_5, 98%)	neat	0.1 g

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Halogenated and Substituted Benzene, Phenol, and Anisole Standards

Catalog No.	Description	Concentration	Unit Size
CLM-871	Bromobenzene ($^{13}C_6$, 99%)	neat	0.5 g
DLM-398	Bromobenzene (D_5, 99%)	neat	5 g, 10 g, 25 g
CLM-2268	4-Bromophenol ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-6917	4-Bromophenol (unlabeled)	100 µg/mL in toluene	1.2 mL
DLM-263	Chlorobenzene (D_5, 99%)	2 mg/mL in methanol	1.2 mL
DLM-263	Chlorobenzene (D_5, 99%)	neat	1 g, 5 g
DLM-1638	2-Chlorophenol (ring-D_4, 99%)	neat	0.1 g, 0.25 g, 1 g
CLM-1913	4-Chlorophenol ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-7420	4-Chlorophenol (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-9373	2,4-Dibromoanisole (ring-$^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-9369	2,4-Dibromoanisole (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-1340	1,4-Dibromobenzene ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
CLM-1340	1,4-Dibromobenzene ($^{13}C_6$, 99%)	neat	0.1 g
DLM-341	1,4-Dibromobenzene (D_4, 98%)	neat	5 g
ULM-10506	1,4-Dibromobenzene (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-6058	2,4-Dibromophenol ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-6918	2,4-Dibromophenol (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-8007	2,6-Dibromophenol ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-7603	2,6-Dibromophenol (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-126	1,2-Dichlorobenzene ($^{13}C_6$, 99%)	100 µg/mL in isooctane	1.2 mL
DLM-158	1,2-Dichlorobenzene (D_4, 99%)	neat	1 g, 5 g
ULM-7415	1,2-Dichlorobenzene (unlabeled)	100 µg/mL in isooctane	1.2 mL
CLM-4484	1,3-Dichlorobenzene ($^{13}C_6$, 99%)	100 µg/mL in isooctane	1.2 mL
DLM-2139	1,3-Dichlorobenzene (D_4, 98%)	neat	0.1 g
ULM-7431	1,3-Dichlorobenzene (unlabeled)	100 µg/mL in isooctane	1.2 mL
CLM-1518	1,4-Dichlorobenzene ($^{13}C_6$, 99%)	neat	1 mg
DLM-268	1,4-Dichlorobenzene (D_4, 98%)	neat	5 g
DLM-1359	2,4-Dichlorophenol (ring-D_3, 98%)	neat	0.1 g, 0.5 g
DLM-1669	2,4-Dichlorophenol (ring-D_3, OD, 98%)	neat	0.1 g
ULM-6822	2,4-Dichlorophenol (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-1365	2,5-Dichlorophenol ($^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-9066	2,5-Dichlorophenol (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-1921	Hexabromobenzene ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-7607	Hexabromobenzene (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-351	Hexachlorobenzene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-351	Hexachlorobenzene ($^{13}C_6$, 99%)	neat	0.1 g
ULM-6130	Hexachlorobenzene (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-10453	2-Isopropyl-5-methylphenol (isopropyl-$^{13}C_3$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-10444	2-Isopropyl-5-methylphenol (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-10447	4-Isopropyl-3-methylphenol (isopropyl-$^{13}C_3$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-10445	4-Isopropyl-3-methylphenol (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-10448	5-Isopropyl-2-methylphenol (isopropyl-$^{13}C_3$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-10446	5-Isopropyl-2-methylphenol (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-10449	3-Methyl-4-nitrophenol ($^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-10440	3-Methyl-4-nitrophenol (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-789	4-Nitrophenol ($^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-8892	4-Nitrophenol (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-10452	4-*tert*-Octylphenol (ring-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-10443	4-*tert*-Octylphenol (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-8992	Pentabromoanisole ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-8991	Pentabromoanisole (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-1959	Pentabromophenol ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-6922	Pentabromophenol (unlabeled)	100 µg/mL in toluene	1.2 mL

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Catalog No.	Description	Concentration	Unit Size
CLM-8003	Pentachloroanisole ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-7605	Pentachloroanisole (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-2050	Pentachlorobenzene ($^{13}C_6$, 99%)	100 µg/mL in isooctane	1.2 mL
ULM-7234	Pentachlorobenzene (unlabeled)	100 µg/mL in isooctane	1.2 mL
CLM-1955	Pentachloronitrobenzene ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7597	Pentachloronitrobenzene (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-661	Pentachlorophenol ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-661	Pentachlorophenol ($^{13}C_6$, 99%)	neat	0.01 g
ULM-6894	Pentachlorophenol (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-1996	2,3,4,5-Tetrabromophenol ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-6778	2,3,4,5-Tetrabromophenol (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-1982	1,2,3,4-Tetrachlorobenzene ($^{13}C_6$, 99%)	100 µg/mL in isooctane	1.2 mL
ULM-6195	1,2,3,4-Tetrachlorobenzene (unlabeled)	100 µg/mL in isooctane	1.2 mL
CLM-585	1,2,4,5-Tetrachlorobenzene ($^{13}C_6$, 99%)	neat	0.1 g, 5 mg
DLM-1177	1,2,4,5-Tetrachlorobenzene (D_2, 98%)	neat	1 g, 5 g
ULM-7598	1,2,4,5-Tetrachlorobenzene (unlabeled)	100 µg/mL in isooctane	1.2 mL
ULM-2428	2,3,4,5-Tetrachlorophenol (unlabeled)	neat	0.1 g
ULM-2429	2,3,4,6-Tetrachlorophenol (unlabeled)	neat	0.1 g
ULM-2430	2,3,5,6-Tetrachlorophenol (unlabeled)	neat	0.1 g
CLM-9372	2,4,5-Tribromoanisole (ring-$^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-9367	2,4,5-Tribromoanisole (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-6744	2,4,6-Tribromoanisole (ring-$^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-9370	2,4,6-Tribromoanisole (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-7488	2,3,4-Tribromophenol ($^{13}C_6$, 99%)	neat	Please inquire
CLM-2235	2,3,5-Tribromophenol ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-6919	2,3,5-Tribromophenol (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-6151	2,4,5-Tribromophenol ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-6084	2,4,5-Tribromophenol (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-6743	2,4,6-Tribromophenol ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
ULM-4210	2,4,6-Tribromophenol (unlabeled)	100 µg/mL in toluene	1.2 mL
CLM-1836	3,4,5-Tribromophenol ($^{13}C_6$, 99%)	100 µg/mL in toluene	1.2 mL
DLM-9198	2,4,6-Trichloroanisole (methyl-D_3, 99%)	neat	Please inquire
DLM-6083	2,4,6-Trichloroanisole (D_5, 98%)	1 mg/mL in methanol-D	1.2 mL
DLM-6083	2,4,6-Trichloroanisole (D_5, 98%)	neat	0.1 g
ULM-7999	2,4,6-Trichloroanisole (unlabeled)	1 mg/mL in methanol	1.2 mL
DLM-1972	1,2,3-Trichlorobenzene (D_3, 98%)	neat	0.1 g
DLM-1178	1,2,4-Trichlorobenzene (D_3, 98%)	neat	0.1 g, 1 g, 5 g
DLM-799	1,3,5-Trichlorobenzene (D_3, 98%)	neat	1 g
CLM-513	2,4,5-Trichlorophenol ($^{13}C_6$, 99%)	100 µg/mL in methanol	1 mL
CLM-513-SI	2,4,5-Trichlorophenol ($^{13}C_6$, 99%)	100 µg/mL in isooctane	1.2 mL
DLM-2143	2,4,5-Trichlorophenol (ring-D_2, 98%)	neat	0.1 g
ULM-7525	2,4,5-Trichlorophenol (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-7525-SI	2,4,5-Trichlorophenol (unlabeled)	100 µg/mL in isooctane	1.2 mL
CLM-1804	2,4,6-Trichlorophenol ($^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
CLM-1804-SI	2,4,6-Trichlorophenol ($^{13}C_6$, 99%)	100 µg/mL in isooctane	1.2 mL
DLM-3093	2,4,6-Trichlorophenol (ring-D_2, 98%)	neat	0.01 g, 0.1 g
ULM-7600	2,4,6-Trichlorophenol (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-7600-SI	2,4,6-Trichlorophenol (unlabeled)	100 µg/mL in isooctane	1.2 mL

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Industrial Chemical Standards

Catalog No.	Description	Concentration	Unit Size
CLM-4674	*n*-Butylbenzene (ring-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-4695	1,2-Dibromo-3-chloropropane ($^{13}C_3$, 99%)	100 µg/mL in methanol	1.2 mL
CLM-6144	1,1-Dichloroethylene (random-^{13}C, 99%)	100 µg/mL in methanol (stabilized with hydroquinone)	1.2 mL
ULM-7214	1,1-Dichloroethylene (unlabeled)	100 µg/mL in methanol (stabilized with hydroquinone)	1.2 mL
CLM-6145	1,2-Dichloroethylene ($^{13}C_1$, 99%) *cis/trans* mix	100 µg/mL in methanol (stabilized with hydroquinone)	1.2 mL
ULM-7215	1,2-Dichloroethylene (unlabeled) *cis/trans* mix	100 µg/mL in methanol (stabilized with hydroquinone)	1.2 mL
CLM-1305	2,4-Dichlorophenol ($^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-3374	Epichlorohydrin ($^{13}C_3$, 99%)	100 µg/mL in acetonitrile	1.2 mL
DLM-1008	Epichlorohydrin (D_5, 98%)	neat	1 g
ULM-7403	Epichlorohydrin (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-8008	Hexachlorophene ($^{13}C_{13}$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-8009	Hexachlorophene (unlabeled)	50 µg/mL in methanol	1.2 mL
CLM-4745	4-Hydroxybenzoic acid (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-8251	4-Hydroxybenzoic acid (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-8792	Sodium bis(2-ethylhexyl) sulfosuccinate (DOSS) (fumaric acid-$^{13}C_4$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8807	Sodium bis(2-ethylhexyl) sulfosuccinate (DOSS) (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-8006	Tetrachlorobisphenol A (ring-$^{13}C_{12}$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-7606	Tetrachlorobisphenol A (unlabeled)	50 µg/mL in methanol	1.2 mL
DLM-9612	Tetradecyl (tri-*n*-butyl) phosphonium bromide (D_{29}, 98%)	100 µg/mL in acetone:water (7.5:2.5)	1.2 mL
ULM-9609	Tetradecyl (tri-*n*-butyl) phosphonium chloride (unlabeled)	100 µg/mL in acetone:water (7.5:2.5)	1.2 mL
DLM-7136	Tributyltin chloride (D_{27}, 98%)	100 µg/mL in MeCl-D_2	1.2 mL
ULM-8061	Tributyltin chloride (unlabeled) CP 97%	100 µg/mL in MeCl	1.2 mL
CLM-6185	1,1,1-Trichloroethane (2-^{13}C, 99%)	100 µg/mL in methanol	1.2 mL
DLM-2080	1,2,3-Trichloropropane (D_5, 98%) CP 95%	100 µg/mL in methanol	1.2 mL
ULM-6911	1,2,3-Trichloropropane (unlabeled)	1 mg/mL in methanol	1.2 mL
DLM-167	Vinyl chloride (D_3, 98%)	50 µg/mL in methanol-OD	1.2 mL
ULM-8224	Vinyl chloride (unlabeled)	50 µg/mL in methanol	1.2 mL

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Nitrosamine Standards

Catalog No.	Description	Concentration	Unit Size
DLM-7779-S	*N*-Nitrodimethylamine (D_6, 98%)	1 mg/mL in MeCl-D_2	1 mL
ULM-7780-S	*N*-Nitrodimethylamine (unlabeled)	1 mg/mL in MeCl	1 mL
DLM-7982-S	*N*-Nitrosodiethylamine (D_{10}, 98%)	1 mg/mL in MeCl-D_2	1 mL
ULM-7984	*N*-Nitrosodiethylamine (unlabeled)	1 mg/mL in MeCl	1.2 mL
DLM-2130-S	*N*-Nitrosodimethylamine (D_6, 98%)	1 mg/mL in MeCl-D_2	1 mL
NLM-7647-S	*N*-Nitrosodimethylamine ($^{15}N_2$, 98%)	1 mg/mL in MeCl	1 mL
CDLM-7279-S	*N*-Nitrosodimethylamine ($^{13}C_2$, 99%; D_6, 98%)	1 mg/mL in MeCl-D_2	1 mL
ULM-9042-S	*N*-Nitrosodimethylamine (unlabeled)	1 mg/mL in MeCl	1 mL
DLM-3098-S	*N*-Nitrosodiphenylamine (2,2′,4,4′,6,6′-D_6, 98%)	1 mg/mL in MeCl-D_2	1 mL
ULM-7219	*N*-Nitrosodiphenylamine (unlabeled)	1 mg/mL in MeCl	1.2 mL
DLM-2131-S	*N*-Nitroso-di-*n*-propylamine (D_{14}, 98%)	1 mg/mL in MeCl-D_2	1 mL
ULM-6637-S	*N*-Nitroso-di-*n*-propylamine (unlabeled)	1 mg/mL in MeCl	1 mL
DLM-8254	*N*-Nitrosomorpholine (D_8, 98%)	1 mg/mL in MeCl-D_2	1.2 mL
ULM-8255	*N*-Nitrosomorpholine (unlabeled) CP 96%	1 mg/mL in MeCl	1.2 mL
DLM-8252	*N*-Nitrosopyrrolidine (D_8, 98%)	1 mg/mL in MeCl-D_2	1.2 mL
ULM-8253	*N*-Nitrosopyrrolidine (unlabeled)	1 mg/mL in MeCl	1.2 mL

Nonylphenol, Nonylphenol Ethoxylate, and Nonylphenol Carboxylate Standards

Catalog No.	Description	Concentration	Unit Size
CLM-8356	4-(1,3-Dimethyl-1-ethylpentyl) phenol (ring-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-8360	4-(1,3-Dimethyl-1-ethylpentyl) phenol (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-8357	4-(1,4-Dimethyl-1-ethylpentyl) phenol (ring-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-8361	4-(1,4-Dimethyl-1-ethylpentyl) phenol (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-8359	4-(1-Ethyl-1-methylhexyl) phenol (ring-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-8363	4-(1-Ethyl-1-methylhexyl) phenol (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-6560	*p*-Nonylphenol (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4306	*p-n*-Nonylphenol (ring-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-4306-M	*p-n*-Nonylphenol (ring-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-4559	*p-n*-Nonylphenol (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-4559-M	*p-n*-Nonylphenol (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-4307	*p-n*-Nonylphenol diethoxylate (ring-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-4307-M	*p-n*-Nonylphenol diethoxylate (ring-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-4521	*p-n*-Nonylphenol diethoxylate (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-4521-M	*p-n*-Nonylphenol diethoxylate (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-4521-SA-5X	*p-n*-Nonylphenol diethoxylate (unlabeled)	500 µg/mL in acetonitrile	1.2 mL
ULM-7147	Nonylphenol diethoxylate (unlabeled) branched isomers	100 µg/mL in nonane	1.2 mL
CLM-4512	*p-n*-Nonylphenol monoethoxylate (ring-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-4512-M	*p-n*-Nonylphenol monoethoxylate (ring-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-4520	*p-n*-Nonylphenol monoethoxylate (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-4520-M	*p-n*-Nonylphenol monoethoxylate (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-4520-SA-5X	*p-n*-Nonylphenol monoethoxylate (unlabeled)	500 µg/mL in acetonitrile	1.2 mL
ULM-7146	Nonylphenol monoethoxylate (unlabeled) branched isomers	100 µg/mL in nonane	1.2 mL
CLM-4516	*p-n*-Nonylphenol triethoxylate (ring-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
ES-4157	*p-n*-Nonylphenol + mono-/di-/tri-ethoxylates (set of individual standards) 1 ampoule each of CLM-4306-1.2, CLM-4512-1.2, CLM-4307-1.2 and CLM-4516-1.2	100 µg/mL in nonane	Set of 4 × 1.2 mL
ULM-4688	Nonylphenoxyacetic acid (unlabeled)ring/chain isomers	100 µg/mL in nonane	1.2 mL
ULM-4690	*p-n*-Nonylphenoxyethoxyacetic acid (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-8358	4-(1,1,5-Trimethylhexyl) phenol (ring-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-8362	4-(1,1,5-Trimethylhexyl) phenol (unlabeled)	100 µg/mL in methanol	1.2 mL

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Paraben Standards

Catalog No.	Description	Concentration	Unit Size
CLM-9849	Benzyl paraben (benzyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9850	Benzyl paraben (benzyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-8285	*n*-Butyl paraben (*n*-butyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-8287	*n*-Butyl paraben (*n*-butyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-9761	Ethyl paraben (ethyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9760	Ethyl paraben (ethyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-10451	*n*-Heptyl paraben (*n*-heptyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-10442	*n*-Heptyl paraben (*n*-heptyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-9847	Isobutyl paraben (isobutyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9848	Isobutyl paraben (isobutyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-9845	Isopropyl paraben (isopropyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9846	Isopropyl paraben (isopropyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-8249	Methyl paraben (methyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-8250	Methyl paraben (methyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-10450	*n*-Pentyl paraben (*n*-pentyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-10441	*n*-Pentyl paraben (*n*-pentyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-9763	*n*-Propyl paraben (*n*-propyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9762	*n*-Propyl paraben (*n*-propyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL

Catalog No.	Description	Unit Size
ES-5600	JECS Phenol/Paraben Clean-Up Standard	1.2 mL

Labeled	Concentration (µg/mL in methanol)
Benzyl paraben (benzyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	10
Bisphenol A (ring-$^{13}C_{12}$, 99%)	10
Bisphenol S (ring-$^{13}C_{12}$, 99%)	10
Bisphenol F (ring-$^{13}C_{12}$, 99%)	10
Bisphenol AF (ring-$^{13}C_{12}$, 99%)	10
n-Butyl paraben (*n*-butyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	10
Ethyl paraben (ethyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	10
n-Heptyl paraben (*n*-heptyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	10
Isobutyl paraben (isobutyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	10
2-Isopropyl-5-methylphenol (isopropyl-$^{13}C_3$, 99%)	10
4-Isopropyl-3-methylphenol (4-isopropyl-$^{13}C_3$, 99%)	10
5-Isopropyl-2-methylphenol (isopropyl-$^{13}C_3$, 99%)	10
Isopropyl paraben (isopropyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	10
3-Methyl-4-nitrophenol ($^{13}C_6$, 99%)	10
Methyl paraben (methyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	10
4-Nitrophenol ($^{13}C_6$, 99%)	10
p-*n*-Nonylphenol (ring-$^{13}C_6$, 99%)	10
4-*t*-Octylphenol (ring-$^{13}C_6$, 99%)	10
Oxybenzone (phenyl-$^{13}C_6$, 99%)	10
n-Pentyl paraben (*n*-pentyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	10
n-Propyl paraben (*n*-propyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	10
Triclocarban (3,4,4′-trichlorocarbanilide) (4′-chlorophenyl-$^{13}C_6$, 99%)	10
Triclosan (2′,4,4′-trichloro-2-hydroxydiphenyl ether) ($^{13}C_{12}$, 99%)	10

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
For research use only. Not for use in diagnostic procedures.

Catalog No.	Description	Unit Size
ES-5599	JECS Phenol/Paraben Native Standard	1.2 mL

Unlabeled	Concentration (µg/mL in methanol)
Benzyl paraben (benzyl 4-hydroxybenzoate)	10
Bisphenol A	10
Bisphenol S	10
Bisphenol F	10
Bisphenol AF	10
n-Butyl paraben (*n*-butyl 4-hydroxybenzoate)	10
Ethyl paraben (ethyl 4-hydroxybenzoate)	10
n-Heptyl paraben (*n*-heptyl 4-hydroxybenzoate)	10
Isobutyl paraben (isobutyl 4-hydroxybenzoate)	10
2-Isopropyl-5-methylphenol	10
4-Isopropyl-3-methylphenol	10
5-Isopropyl-2-methylphenol	10
Isopropyl paraben (isopropyl 4-hydroxybenzoate)	10
3-Methyl-4-nitrophenol	10
Methyl paraben (methyl 4-hydroxybenzoate)	10
4-Nitrophenol	10
p-*n*-Nonylphenol	10
4-*t*-Octylphenol	10
Oxybenzone	10
n-Pentyl paraben (*n*-pentyl 4-hydroxybenzoate)	10
n-Propyl paraben (*n*-propyl 4-hydroxybenzoate)	10
Triclocarban (3,4,4′-trichlorocarbanilide)	10
Triclosan (2′,4,4′-trichloro-2-hydroxydiphenyl ether)	10

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Perflourinated Standards

Catalog No.	Description	Concentration	Unit Size
ULM-8097	Perfluorobutyric acid (PFBA) (unlabeled)	50 µg/mL in methanol	1.2 mL
ULM-9515	Perfluoropentanoic acid (PFPA) (unlabeled)	50 µg/mL in methanol	1.2 mL
CLM-8340	Perfluorohexanoic acid (PFHxA), sodium salt ($^{13}C_6$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-8342	Perfluorohexanoic acid (PFHxA), sodium salt (unlabeled)	50 µg/mL in methanol	1.2 mL
CLM-10624	Perfluoroheptanoic acid (PFHpA), sodium salt (heptanoyl-$^{13}C_7$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-9516	Perfluoroheptanoic acid (PFHpA) (unlabeled)	50 µg/mL in methanol	1.2 mL
CLM-8005	Perfluorooctanoic acid (PFOA) ($^{13}C_8$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-7451	Perfluorooctanoic acid (PFOA) (unlabeled)	50 µg/mL in methanol	1.2 mL
CLM-8060	Perfluorononanoic acid (PFNA) ($^{13}C_9$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-8066	Perfluorononanoic acid (PFNA) (unlabeled)	50 µg/mL in methanol	1.2 mL
CLM-8172	Perfluorodecanoic acid (PFDA) ($^{13}C_9$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-8067	Perfluorodecanoic acid (PFDA) (unlabeled)	50 µg/mL in methanol	1.2 mL
CLM-8789	Perfluoroundecanoic acid (PFUA), sodium salt (3,4,5,6,7,8,9,10,11-$^{13}C_9$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-8084	Perfluoroundecanoic acid (PFUA), sodium salt (unlabeled)	50 µg/mL in methanol	1.2 mL
CLM-10593	Perfluorododecanoic acid (PFDoA), sodium salt (dodecanoyl-$^{13}C_{12}$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-10594	Perfluorododecanoic acid (PFDoA), sodium salt (unlabeled)	50 µg/mL in methanol	1.2 mL
ULM-8068	Perfluorododecanoic acid (PFDoA) (unlabeled)	50 µg/mL in methanol	1.2 mL
ULM-9955	Perfluorotridecanoic acid (PFTrDA) (unlabeled) CP 97%	50 µg/mL in methanol	1.2 mL
ULM-9956	Perfluorotetradecanoic acid (PFTeDA) (unlabeled) CP 96%	50 µg/mL in methanol	1.2 mL

Perfluoroalkyl Sulfonates (PFAS)

CLM-9523-1.2	Perfluorobutanesulfonate (PFBS), potassium salt ($^{13}C_4$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-9521	Perfluorobutanesulfonate (PFBS), potassium salt (unlabeled)	50 µg/mL in methanol	1.2 mL
ULM-12322-1.2	Perfluorodecanesulfonate (PFDS), potassium salt (unlabeled)	50 µg/mL in methanol	1.2 mL
ULM-9520	Perfluoropentanesulfonate (PFPeS), sodium salt (unlabeled)	50 µg/mL in methanol	1.2 mL
CLM-9526	Perfluorohexanesulfonate (PFHxS), potassium salt ($^{13}C_6$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-12310-1.2	Potassium perfluoro-1-hexanesulfonate (PFHxS) (unlabeled) (linear isomer)	50 µg/mL in methanol	1.2 mL
ULM-9524	Perfluorohexanesulfonate (PFHxS), potassium salt (unlabeled) (mix of isomers)	50 µg/mL in methanol	1.2 mL
ULM-9531	Perfluoroheptanesulfonate (PFHpS), sodium salt (unlabeled)	50 µg/mL in methanol	1.2 mL
CLM-8505	Perfluorooctanesulfonate (PFOS), sodium salt ($^{13}C_8$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-9001	Perfluorooctanesulfonate (PFOS), sodium salt (unlabeled)	50 µg/mL in methanol	1.2 mL
ULM-10655	Perfluorooctanesulfonate (PFOS) (unlabeled) (mix of isomers)	50 µg/mL in methanol	1.2 mL
ULM-9530	Perfluorononanesulfonate (PFNS), sodium salt (unlabeled)	50 µg/mL in methanol	1.2 mL

Fluorotelomer Sulfonates (FTS)

CDLM-10753	1H,1H,2H,2H-Perfluorohexanesulfonate (4:2 FTS), sodium salt ($^{13}C_2$, 99%; D_4, 98%)	50 µg/mL in methanol	1.2 mL
ULM-10757	1H,1H,2H,2H-Perfluorohexanesulfonate (4:2 FTS), sodium salt (unlabeled)	50 µg/mL in methanol	1.2 mL
CDLM-10752	1H,1H,2H,2H-Perfluorooctanesulfonate (6:2 FTS), sodium salt ($^{13}C_2$, 99%; D_4, 98%)	50 µg/mL in methanol	1.2 mL
ULM-10756	1H,1H,2H,2H-Perfluorooctanesulfonate (6:2 FTS), sodium salt (unlabeled)	50 µg/mL in methanol	1.2 mL
CDLM-10751	1H,1H,2H,2H-Perfluorodecanesulfonate (8:2 FTS), sodium salt ($^{13}C_2$, 99%; D_4, 98%)	50 µg/mL in methanol	1.2 mL
ULM-10755	1H,1H,2H,2H-Perfluorodecanesulfonate (8:2 FTS), sodium salt (unlabeled)	50 µg/mL in methanol	1.2 mL
CDLM-10750	1H,1H,2H,2H-Perfluorododecanesulfonate (10:2 FTS), sodium salt ($^{13}C_2$, 99%; D_4, 98%)	50 µg/mL in methanol	1.2 mL
ULM-10754	1H,1H,2H,2H-Perfluorododecanesulfonate (10:2 FTS), sodium salt (unlabeled)	50 µg/mL in methanol	1.2 mL

Perfluorooctanesulfonamidoacetic Acids (FOSAA)

DLM-10663	*N*-Methylperfluorooctanesulfonamidoacetic acid (*N*-MeFOSAA) (*N*-methyl-D_3, 98%)	50 µg/mL in methanol	1.2 mL
ULM-10656	*N*-Methylperfluorooctanesulfonamidoacetic acid (*N*-MeFOSAA) (unlabeled) (mix of isomers)	50 µg/mL in methanol	1.2 mL
DLM-10664	*N*-Ethylperfluorooctanesulfonamidoacetic acid (*N*-EtFOSAA) (*N*-methyl-D_3, 98%)	50 µg/mL in methanol	1.2 mL
ULM-10657	*N*-Ethylperfluorooctanesulfonamidoacetic acid (*N*-EtFOSAA) (unlabeled) (mix of isomers)	50 µg/mL in methanol	1.2 mL

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Perfluorooctanesulfonamides (FOSA)

Catalog No.	Description	Concentration	Unit Size
DLM-10740	*N*-Methylperfluorooctanesulfonamide (*N*-MeFOSA) (D_3, 98%)	50 µg/mL in methanol	1.2 mL
ULM-10779	*N*-Methylperfluorooctanesulfonamide (*N*-MeFOSA) (unlabeled)	50 µg/mL in methanol	1.2 mL
DLM-10741	*N*-Ethylperfluorooctanesulfonamide (*N*-EtFOSA) (D_5, 98%)	50 µg/mL in methanol	1.2 mL
ULM-10780	*N*-Ethylperfluorooctanesulfonamide (*N*-EtFOSA) (unlabeled)	50 µg/mL in methanol	1.2 mL

Fluoropolymers

ULM-10728	GenX (Tetrafluoro-2-(heptafluoropropoxy)propanoic acid (HFPO-DA) (unlabeled)	100 µg/mL in methanol	1.2 mL

PFAS Mixture

ES-5576	Perfluoroalkylsulfonate (PFAS) C_4-C_{10} Native Mixture (unlabeled)	5 µg/mL in methanol	1.2 mL

PFCA Mixture

ES-5587	Perfluoroalkylcarboxylic acid (PFCA) C_4-C_{14} Native Mixture (unlabeled)	2 µg/mL in methanol	1.2 mL

PFOS/PFOA Mixtures

ES-5570	PFOS/PFOA Calibration Series CS1-CS5	5 × 0.25 mL in methanol
ES-5570-CS0.25	PFOS/PFOA Calibration Series CS0.25	0.25 mL in methanol

	Concentration (ng/mL)					
Unlabeled	CS0.25*	CS1	CS2	CS3	CS4	CS5
Perfluorooctanoic acid (PFOA)	0.5	2	10	50	200	1000
Perfluorooctanesulfonate (PFOS), sodium salt	0.5	2	10	50	200	1000
Labeled (for extraction)						
Perfluorooctanoic acid (PFOA) ($^{13}C_8$, 99%)	50	50	50	50	50	50
Perfluorooctanesulfonate (PFOS), sodium salt ($^{13}C_8$, 99%)	50	50	50	50	50	50
Labeled (for injection)						
Perfluorononanoic acid (PFNA) ($^{13}C_9$, 99%)	50	50	50	50	50	50

**Not included in ES-5570 – available for separate purchase.*

ES-5571	PFOS/PFOA Extraction Standard Mixture	3 mL in methanol

Labeled	Concentration (ng/mL)
Perfluorooctanoic acid (PFOA) ($^{13}C_8$, 99%)	2000
Perfluorooctanesulfonate (PFOS), sodium salt ($^{13}C_8$, 99%)	2000

ES-5572	PFOS/PFOA Injection Standard Mixture	3 mL in methanol

Labeled	Concentration (ng/mL)
Perfluorononanoic acid (PFOA) ($^{13}C_9$, 99%)	2000

ES-5573	PFOS/PFOA Native Standard Mixture	1.2 mL in methanol

Labeled	Concentration (ng/mL)
Perfluorooctanoic acid (PFOA)	5000
Perfluorooctanesulfonate (PFOS), sodium salt	5000

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Personal Care Products

Catalog No.	Description	Concentration	Unit Size
DLM-183	Benzophenone (D_{10}, 98%)	100 µg/mL in nonane	1.2 mL
ULM-8303	Benzophenone (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-9437	Decamethylcyclopentasiloxane "D5" (decamethyl-$^{13}C_{10}$, 98%)	100 µg/mL in methanol	1.2 mL
ULM-9442	Decamethylcyclopentasiloxane "D5" (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-4762	*N,N*-Diethyl-*m*-toluamide (DEET) (dimethyl-D_6, 98%)	100 µg/mL in MeCl	1.2 mL
DLM-4762-D	*N,N*-Diethyl-*m*-toluamide (DEET) (dimethyl-D_6, 98%)	100 µg/mL in dioxane	1.2 mL
ULM-7975	*N,N*-Diethyl-*m*-toluamide (DEET) (unlabeled)	100 µg/mL in MeCl	1.2 mL
ULM-7975-D	*N,N*-Diethyl-*m*-toluamide (DEET) (unlabeled)	100 µg/mL in dioxane	1.2 mL
CLM-10232	Dodecamethylcyclohexasiloxane "D6" (methyl-$^{13}C_6$, 98%)	100 µg/mL in methanol	1.2 mL
ULM-9443	Dodecamethylcyclohexasiloxane "D6" (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9349	4-Dodecylbenzenesulfonic acid, sodium salt (ring-$^{13}C_6$, 99%) CP 94%	10 µg/mL in methanol	1.2 mL
ULM-9350	4-Dodecylbenzenesulfonic acid, sodium salt (unlabeled) CP 95%	10 µg/mL in methanol	1.2 mL
CLM-8008	Hexachlorophene ($^{13}C_{13}$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-8009	Hexachlorophene (unlabeled)	50 µg/mL in methanol	1.2 mL
CLM-9542	Hexamethylcyclotrisiloxane "D3" (hexamethyl-$^{13}C_6$, 98%)	100 µg/mL in MTBE	1.2 mL
ULM-9687	Hexamethylcyclotrisiloxane "D3" (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-4745	4-Hydroxybenzoic acid (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-8251	4-Hydroxybenzoic acid (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-10666	DL-Mandelic acid ($^{13}C_8$, 99%)		Please inquire
CLM-7885	Methyl triclosan (2,4,4′-trichloro-2′-methoxydiphenyl ether) (ring-$^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7884	Methyl triclosan (2,4,4′-trichloro-2′-methoxydiphenyl ether) (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-9436-MT	Octamethylcyclotetrasiloxane "D4" (octamethyl-$^{13}C_8$, 98%)	100 µg/mL in MTBE	1.2 mL
ULM-9441-MT	Octamethylcyclotetrasiloxane "D4" (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-9849	Benzyl paraben (benzyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9850	Benzyl paraben (benzyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-8285	*n*-Butyl paraben (*n*-butyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-8287	*n*-Butyl paraben (*n*-butyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-9761	Ethyl paraben (ethyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9760	Ethyl paraben (ethyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-10451	*n*-Heptyl paraben (*n*-heptyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-10442	*n*-Heptyl paraben (*n*-heptyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-9847	Isobutyl paraben (isobutyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9848	Isobutyl paraben (isobutyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-9845	Isopropyl paraben (isopropyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9846	Isopropyl paraben (isopropyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-8249	Methyl paraben (methyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-8250	Methyl paraben (methyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-10450	*n*-Pentyl paraben (*n*-pentyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-10441	*n*-Pentyl paraben (*n*-pentyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-9763	*n*-Propyl paraben (*n*-propyl 4-hydroxybenzoate) (ring-$^{13}C_6$, 99%)	1 mg/mL in methanol	1.2 mL
ULM-9762	*n*-Propyl paraben (*n*-propyl 4-hydroxybenzoate) (unlabeled)	1 mg/mL in methanol	1.2 mL
CLM-8525	Oxybenzone (phenyl-$^{13}C_6$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8531	Oxybenzone (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-7286	Triclocarban (3,4,4′-trichlorocarbanilide) (4′-chlorophenyl-$^{13}C_6$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7968	Triclocarban (3,4,4′-trichlorocarbanilide) (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-6779	Triclosan (2′,4,4′-trichloro-2-hydroxydiphenyl ether) ($^{13}C_{12}$, 99%)	100 µg/mL in nonane	1.2 mL
CLM-6779-MT	Triclosan (2′,4,4′-trichloro-2-hydroxydiphenyl ether) ($^{13}C_{12}$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-6935	Triclosan (2′,4,4′-trichloro-2-hydroxydiphenyl ether) (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-6935-MT	Triclosan (2′,4,4′-trichloro-2-hydroxydiphenyl ether) (unlabeled)	100 µg/mL in MTBE	1.2 mL

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Phthalate and Phthalate Metabolite Standards

Catalog No.	Description	Concentration	Unit Size
CLM-10319	1,2,4-Benzenetricarboyxlic acid, 1,2-bis(2-ethylhexyl) ester ($^{13}C_8$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10320	1,2,4-Benzenetricarboxylic acid, 1,2-bis(2-ethylhexyl) ester (unlabeled) (5% 2,4-isomer)	100 µg/mL in MTBE	1.2 mL
CLM-10315	1,2,4-Benzenetricarboxylic acid, 1,4-bis(2-ethylhexyl) ester ($^{13}C_8$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10316	1,2,4-Benzenetricarboxylic acid, 1,4-bis(2-ethylhexyl) ester (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10317	1,2,4-Benzenetricarboxylic acid, 2,4-bis(2-ethylhexyl) ester ($^{13}C_8$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10318	1,2,4-Benzenetricarboxylic acid, 2,4-bis(2-ethylhexyl) ester (unlabeled)	100 µg/mL in MTBE	1.2 mL
DLM-1369	Benzyl butyl phthalate (ring-D_4, 98%)	100 µg/mL in nonane	1.2 mL
DLM-1369	Benzyl butyl phthalate (ring-D_4, 98%)	neat	0.1 g
ULM-7551	Benzyl butyl phthalate (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4675	Bis(2-ethylhexyl) adipate (adipate-$^{13}C_6$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-6566	Bis(2-ethylhexyl) adipate (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-6238-MT	Bis(2-ethylhexyl)phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
DLM-1368	Bis(2-ethylhexyl)phthalate (ring-D_4, 98%)	100 µg/mL in nonane	1.2 mL
DLM-1368	Bis(2-ethylhexyl)phthalate (ring-D_4, 98%)	neat	0.1 g, 0.25 g
ULM-6241	Bis(2-ethylhexyl)phthalate (unlabeled)	1000 µg/mL in nonane	1.2 mL
ULM-9767	Bis(7-methyloctyl)phthalate (unlabeled)	neat	Please inquire
CLM-10592	Cyclohexane-1,2-dicarboxylic acid, di-(4-methyloctyl) ester (DINCH) ($^{13}C_4$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10591	Cyclohexane-1,2-dicarboxylic acid, di-(4-methyloctyl) ester (DINCH) (unlabeled)	100 µg/mL in MTBE	1.2 mL
ULM-10302	Cyclohexane-1,2-dicarboxylic acid, mono-(4-methyl-7-oxooctyl) ester (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10299	Cyclohexane-1,2-dicarboxylic acid, mono-(4-methyloctyl) ester (MINCH) ($^{13}C_4$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10300	Cyclohexane-1,2-dicarboxylic acid, mono-(4-methyloctyl) ester (MINCH) (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10303	Cyclohexane-1,2-dicarboxylic acid, mono-(7-carboxy-4-methylheptyl) ester ($^{13}C_4$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10304	Cyclohexane-1,2-dicarboxylic acid, mono-(7-carboxy-4-methylheptyl) ester (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10202	Cyclohexane-1,2-dicarboxylic acid, mono-(7-hydroxy-4-methyloctyl) ester ($^{13}C_4$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10203	Cyclohexane-1,2-dicarboxylic acid, mono-(7-hydroxy-4-methyloctyl) ester (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10301	Cyclohexane-1,2-dicarboyxlic acid, mono-(4-methyl-7-oxooctyl) ester ($^{13}C_4$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10302	Cyclohexane-1,2-dicarboyxlic acid, mono-(4-methyl-7-oxooctyl) ester (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-4670	Dicyclohexyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-8785	Dicyclohexyl phthalate (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-1629	Diethyl phthalate (ring-D_4, 98%)	100 µg/mL in nonane	1.2 mL
DLM-1629	Diethyl phthalate (ring-D_4, 98%)	neat	0.1 g, 0.25 g
ULM-6174	Diethyl phthalate (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-1366	Dimethyl phthalate (ring-D_4, 98%)	100 ± 10 µg/mL in nonane	1.2 mL
DLM-1366	Dimethyl phthalate (ring-D_4, 98%)	neat	0.1 g
ULM-6783	Dimethyl phthalate (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-1367	Di-*n*-butyl phthalate (ring-D_4, 98%)	100 µg/mL in nonane	1.2 mL
DLM-1367	Di-*n*-butyl phthalate (ring-D_4, 98%)	neat	0.1 g, 0.25 g
ULM-7466	Di-*n*-butyl phthalate (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4669	Di-*n*-hexyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7434	Di-*n*-hexyl phthalate (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-1630	Di-*n*-octyl phthalate (ring-D_4, 98%)	100 µg/mL in nonane	1.2 mL
DLM-1630	Di-*n*-octyl phthalate (ring-D_4, 98%)	neat	0.1 g
ULM-6129	Di-*n*-octyl phthalate (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4668	Di-*n*-pentyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-7433	Di-*n*-pentyl phthalate (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4671	Di-*n*-propyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in nonane	Please inquire
ULM-4652-MT	Mono(3,7-dimethyl-1-octyl phthalate) (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-4591-MT	Monobenzyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-6149-MT	Monobenzyl phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-4590-MT	Mono-*n*-butyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-6148-MT	Mono-*n*-butyl phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-4592-MT	Monocyclohexyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-7394-MT	Monocyclohexyl phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL

MTBE: methyl tert-butyl ether

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
For research use only. Not for use in diagnostic procedures.

Phthalate and Phthalate Metabolite Standards *(continued)*

Catalog No.	Description	Concentration	Unit Size
CLM-4589-MT	Mono-*n*-octyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-4593-MT	Mono-*n*-octyl phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10187	Mono-*n*-pentyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-7393-MT	Mono-*n*-pentyl phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-8232-MT	Mono-[2-(carboxymethyl) hexyl]phthalate (DEHP Metabolite IV) ($^{13}C_4$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-8233-MT	Mono-[2-(carboxymethyl) hexyl]phthalate (DEHP Metabolite IV) (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-8148-MT	Mono-(2-ethyl-5-carboxypentyl)phthalate (DEHP Metabolite V) ($^{13}C_4$, 99%) CP 90%	100 µg/mL in MTBE	1.2 mL
ULM-8149-MT	Mono-(2-ethyl-5-carboxypentyl)phthalate (DEHP Metabolite V) (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-6641-MT	Mono-(2-ethyl-5-hydroxyhexyl)phthalate (DEHP Metabolite IX) ($^{13}C_4$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-4662-MT	Mono-(2-ethyl-5-hydroxyhexyl)phthalate (DEHP Metabolite IX) (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-6640-MT	Mono-(2-ethyl-5-oxohexyl)phthalate (DEHP Metabolite VI) ($^{13}C_4$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-4663-MT	Mono-(2-ethyl-5-oxohexyl)phthalate (DEHP Metabolite VI) (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-4584-MT	Mono-2-ethylhexyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-4583-MT	Mono-2-ethylhexyl phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10200	Mono-2-ethylhexyl terephthalate (ring-$^{13}C_6$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10201	Mono-2-ethylhexyl terephthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
ULM-4594	Mono-2-methoxyethyl phthalate (unlabeled)	neat	Please inquire
CLM-6847-MT	Mono-(3-carboxypropyl)phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-6848-MT	Mono-(3-carboxypropyl)phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
ULM-4820	Mono-3-hydroxybutyl phthalate (unlabeled)	neat	Please inquire
CLM-4588-MT	Mono-(3,7-dimethyl-1-octyl) phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
CLM-10192	Mono-(4-methyl-7-carboxyheptyl)phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10193	Mono-(4-methyl-7-carboxyheptyl)phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10196	Mono-(4-methyl-7-carboxyoctyl)phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10197	Mono-(4-methyl-7-carboxyoctyl)phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10188	Mono-(4-methyl-7-hydroxyoctyl)phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10189	Mono-(4-methyl-7-hydroxyoctyl)phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10190	Mono-(4-methyl-7-oxooctyl)phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10191	Mono-(4-methyl-7-oxooctyl)phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10311	Mono-(6-carboxy-2-propylhexyl)phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10312	Mono-(6-carboxy-2-propylhexyl)phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10313	Mono-(6-hydroxy-2-propylheptyl)phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10314	Mono-(6-hydroxy-2-propylheptyl)phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10309	Mono-(6-oxo-2-propylheptyl)phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10310	Mono-(6-oxo-2-propylheptyl)phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10305	Mono-(7-carboxyoctyl)phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-10306	Mono-(7-carboxyoctyl)phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
ULM-10308	Mono-(8-carboxynonyl)phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-6225	Monomethyl isophthalate (ring-$^{13}C_6$, 99%)	neat	Please inquire
ULM-6226	Monomethyl isophthalate (unlabeled)	neat	Please inquire
CLM-4586-MT	Monoethyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%) CP 95%	100 µg/mL in MTBE	1.2 mL
ULM-4585-MT	Monoethyl phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-10204	Monoisobutyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-7919-MT	Monoisobutyl phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-4587-MT	Monoisononyl phthalate (mono-3,5,5-trimethylhexyl phthalate) (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-4651-MT	Monoisononyl phthalate (mono-3,5,5-trimethylhexyl phthalate) (unlabeled)	100 µg/mL in MTBE	1.2 mL
ULM-7395-MT	Monoisopropyl phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-6071-MT	Monomethyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-6697-MT	Monomethyl phthalate (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-4323	Phthalic acid (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%)	100 µg/mL in nonane	1.2 mL
ULM-8301-MT	Phthalic acid (unlabeled)	100 µg/mL in MTBE	1.2 mL

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Prescription and Nonprescription Drugs

Catalog No.	Description	Concentration	Unit Size
CNLM-3726	Acetaminophen (acetyl-$^{13}C_2$, 99%; ^{15}N, 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7629	Acetaminophen (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-3008	Amitriptyline·HCl (*N,N*-dimethyl-D_6, 98%)	100 µg/mL in methanol	1.2 mL
ULM-8350	Amitriptyline·HCl (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-514	Caffeine (trimethyl-$^{13}C_3$, 99%)	100 µg/mL in methanol	1.2 mL
ULM-7653	Caffeine (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-2806	Carbamazepine (D_{10}, 98%)	100 µg/mL in acetonitrile-D_3	1.2 mL
ULM-6581	Carbamazepine (unlabeled) CP 97%	100 µg/mL in acetonitrile	1.2 mL
DLM-1287	Clonidine (4,4,5,5-imidazoline-D_4, 98%)	100 µg/mL in methanol	1.2 mL
ULM-8349	Clonidine (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-1819	DL-Cotinine (methyl-D_3, 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9614	Cotinine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9614-W	Cotinine (unlabeled)	100 µg/mL in water	1.2 mL
DLM-9974	Diclofenac sodium (D_4, 98%)	100 µg/mL in methanol	1.2 mL
ULM-9975	Diclofenac sodium (unlabeled)	100 µg/mL in methanol	1.2 mL
CNLM-411	5,5-Diphenylhydantoin (2-^{13}C, 99%; 1,3-$^{15}N_2$, 98%)	100 µg/mL in methanol	1.2 mL
ULM-8533	5,5-Diphenylhydantoin (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-8221	Gemfibrozil (2,2-dimethyl-D_6, 98%)	100 µg/mL in *p*-dioxane	1.2 mL
ULM-8225	Gemfibrozil (unlabeled)	100 µg/mL in *p*-dioxane	1.2 mL
CLM-6943	Ibuprofen (propionic-$^{13}C_3$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7275	Ibuprofen (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-3035	Imipramine·HCl (D_4, 98%) CP 97%	100 µg/mL in methanol	1.2 mL
CDLM-7665	DL-Naproxen (*O*-methyl-^{13}C, 99%; *O*-methyl-D_3, 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7709	Naproxen (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CNLM-8223	Nitrofurazone (carbonyl-^{13}C, 99%; hydrazine-$^{15}N_2$, 98%) CP 97%	100 µg/mL in methanol	Please inquire
ULM-8234	Nitrofurazone (unlabeled)	100 µg/mL in methanol	Please inquire
DLM-3039	Phenylbutazone (diphenyl-D_{10}, 98%)	neat	0.05 g, 0.1 g, 1 mg
ULM-7378	Phenylbutazone (unlabeled)	neat	1 mg
CLM-7892	Resorcinol ($^{13}C_6$, 99%)	neat	Please inquire
CLM-8370	Thiabendazole (ring-$^{13}C_6$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8371	Thiabendazole (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-6861-MT	Warfarin (phenyl-D_5, 98%)	100 µg/mL in MTBE	1.2 mL
ULM-7242-MT	Warfarin (unlabeled)	100 µg/mL in MTBE	1.2 mL

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Sex and Steroidal Hormones

Catalog No.	Description	Concentration	Unit Size
DLM-8438	Aldosterone (2,2,4,6,6,17,21,21-D_8) *Isotopic enrichment to be advised at time of shipment*	neat	1 mg
ULM-9134	Aldosterone (unlabeled) CP 95%	neat	1 mg, 5 mg
CLM-9135-C	4-Androstene-3,17-dione (2,3,4-$^{13}C_3$, 98%)	100 µg/mL in methanol	1 mL
DLM-8330	4-Androstene-3,17-dione (2,2,4,6,6-D_5, 98%)	neat	50 mg
ULM-9138	Androsterone glucuronide, sodium salt (unlabeled)	neat	5 mg
DLM-9541	Chenodeoxycholic acid (2,2,3,4,4,6,6,7,8-D_9, 98%)	neat	10 mg
ULM-9540	Chenodeoxycholic acid (unlabeled)	neat	50 mg
DLM-8276	Cholestenone (2,2,4,6,6-D_5, 98%)	neat	0.1 g
CLM-804	Cholesterol (3,4-$^{13}C_2$, 99%)	neat	0.1 g
CLM-9139-B	Cholesterol (2,3,4-$^{13}C_3$, 98%)	50 µg/mL in chloroform	1 mL
CLM-9139-C	Cholesterol (2,3,4-$^{13}C_3$, 98%)	100 µg/mL in chloroform	1 mL
CLM-9587	Cholesterol (23,24,25,26,27-$^{13}C_5$, 99%)	100 µg/mL in methanol	1.2 mL
DLM-2607	Cholesterol (2,2,3,4,4,6-D_6, 97%)	neat	0.1 g
DLM-3057	Cholesterol (25,26,26,26,27,27,27-D_7, 98%)	neat	0.01 g
ULM-9140	Cholesterol (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-2611	Cholic acid (2,2,4,4-D_4, 98%)	neat	50 mg
ULM-9543	Cholic acid (unlabeled)	neat	50 mg
DLM-7347	Corticosterone (2,2,4,6,6,17α,21,21-D_8, 97%)	neat	0.01 g
DLM-2057	Cortisol (9,12,12-D_3, 98%)	neat	0.01 g
DLM-2218	Cortisol (9,11,12,12-D_4, 98%)	neat	0.1 mg, 0.1 g
ULM-7823	Cortisol (unlabeled)	neat	0.1 mg
DLM-9142-C	Cortisone (2,2,4,6,6,12,12-D_7) *Isotopic enrichment to be advised at time of shipment*	100 µg/mL in methanol	1 mL
ULM-9202-C	Cortisone (unlabeled)	100 µg/mL in methanol	1 mL
ULM-9202	Cortisone (unlabeled)	neat	1 mg, 5 mg
DLM-8049-C	Dehydroepiandrosterone (DHEA) (2,2,3,4,4,6-D_6, 99%) CP 97%	100 µg/mL in methanol	1 mL
DLM-8049	Dehydroepiandrosterone (DHEA) (2,2,3,4,4,6-D_6, 99%) CP 97%	neat	5 mg
ULM-9143-C	Dehydroepiandrosterone (DHEA) (unlabeled)	100 µg/mL in methanol	1 mL
ULM-9143-D	Dehydroepiandrosterone (DHEA) (unlabeled)	1000 µg/mL in methanol	1 mL
ULM-9144-C	Dehydroepiandrosterone sulfate (DHEAS), sodium salt (unlabeled)	100 µg/mL in methanol	1 mL
ULM-9144-D	Dehydroepiandrosterone sulfate (DHEAS), sodium salt (unlabeled)	1000 µg/mL in methanol	1 mL
DLM-2824	Deoxycholic acid (2,2,4,4-D_4, 98%)	neat	10 mg
DLM-9546-C	Deoxycholic acid (2,2,4,4,11,11-D_6, 98%)	100 µg/mL in methanol	1 mL
DLM-9546	Deoxycholic acid (2,2,4,4,11,11-D_6, 98%)	neat	10 mg
ULM-9545	Deoxycholic acid (unlabeled)	neat	50 mg
ULM-9145-C	11-Deoxycortisol (unlabeled)	100 µg/mL in methanol	1 mL
ULM-9145-D	11-Deoxycortisol (unlabeled)	1000 µg/mL in methanol	1 mL
DLM-8305	21-Deoxycortisol (2,2,4,6,6,21,21,21-D_8, 97%)	neat	0.01 g
DLM-170-D	Diethylstilbestrol (ring-3,3',5,5'-diethyl-1,1,1',1'-D_8, 98%) *cis/trans* mix	100 µg/mL in dioxane	1.2 mL
ULM-7921-D	Diethylstilbestrol (unlabeled) *cis/trans* mix	100 µg/mL in dioxane	1.2 mL
CLM-9146-C	5α-Dihydrotestosterone (2,3,4-$^{13}C_3$, 99%) CP 97%	100 µg/mL in methanol	1 mL
CLM-9146-D	5α-Dihydrotestosterone (2,3,4-$^{13}C_3$, 99%) CP 97%	1000 µg/mL in methanol	1 mL
CLM-7936-S	DL-Estradiol (13,14,15,16,17,18-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
CLM-7936	DL-Estradiol (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
CLM-803	Estradiol (3,4-$^{13}C_2$, 99%)	100 µg/mL in acetonitrile	1.2 mL
DLM-2487	Estradiol (2,4,16,16-D_4, 95%)	neat	5 mg
ULM-7449-S	Estradiol (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-7449	Estradiol (unlabeled)	neat	0.1 mg
CLM-9147-C	Estriol (16α-hydroxyestradiol) (2,3,4-$^{13}C_3$, 99%)	100 µg/mL in methanol	1 mL
CLM-9147	Estriol (16α-hydroxyestradiol) (2,3,4-$^{13}C_3$, 99%)	neat	0.1 mg, 0.25 mg, 0.5 mg, 1 mg
DLM-8583	Estriol (2,4,16,17-D_4, 98%) CP 95%	neat	0.1 mg
ULM-8218	Estriol (unlabeled)	neat	0.1 mg

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Catalog No.	Description	Concentration	Unit Size
CLM-7935-S	DL-Estrone (13,14,15,16,17,18-$^{13}C_6$, 99%) CP 95%	100 µg/mL in methanol	1.2 mL
CLM-7935	DL-Estrone (13,14,15,16,17,18-$^{13}C_6$, 99%) CP 95%	neat	0.1 mg
CLM-8033	DL-Estrone 3-methyl ether (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
CLM-673	Estrone (3,4-$^{13}C_2$, 90%)	100 µg/mL in acetonitrile	1.2 mL
CLM-9148-B	Estrone (2,3,4-$^{13}C_3$, 99%)	50 µg/mL in methanol	1 mL
CLM-9148-C	Estrone (2,3,4-$^{13}C_3$, 99%)	100 µg/mL in methanol	1 mL
DLM-3976	Estrone (2,4,16,16-D_4, 97%)	neat	5 mg
ULM-7212	Estrone (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-4691	17α-Ethynylestradiol (2,4,16,16-D_4, 97%)	neat	0.01 g
CLM-3375	Ethynylestradiol (20,21-$^{13}C_2$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7211	Ethynylestradiol (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-9550	Glycochenodeoxycholic acid (2,2,3,4,4,6,6,7,8-D_9, 98%) CP 97%	neat	10 mg
DLM-2742	Glycocholic acid (2,2,4,4-D_4, 98%) (contains ~4% water) CP 96%	neat	10 mg
ULM-9551	Glycocholic acid (unlabeled)	neat	50 mg
DLM-9554	Glycodeoxycholic acid (2,2,4,4-D_4, 98%)	neat	10 mg
DLM-9553-C	Glycodeoxycholic acid (2,2,4,4,11,11-D_6, 98%)	100 µg/mL in methanol	1 mL
DLM-9553	Glycodeoxycholic acid (2,2,4,4,11,11-D_6, 98%)	neat	10 mg
ULM-9552	Glycodeoxycholic acid, sodium salt (unlabeled)	neat	50 mg
DLM-9556	Glycolithocholic acid (2,2,4,4-D_4, 98%)	neat	10 mg
ULM-9555	Glycolithocholic acid (unlabeled)	neat	50 mg
DLM-9558	Glycoursodeoxycholic acid (2,2,4,4-D_4, 98%) CP 97%	neat	10 mg
ULM-9557	Glycoursodeoxycholic acid (unlabeled)	neat	50 mg
DLM-9150-C	18-Hydroxycorticosterone (9,11,12,12-D_4, 98%) CP 95%	100 µg/mL in acetonitrile	1 mL
DLM-9150	18-Hydroxycorticosterone (9,11,12,12-D_4, 98%) CP 95%	neat	1 mg
ULM-9151	18-Hydroxycorticosterone (unlabeled) CP 95%	neat	1 mg
CLM-8012	DL-2-Hydroxyestradiol (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
ULM-8135	2-Hydroxyestradiol (unlabeled)	neat	0.1 mg
CLM-9153-C	16α-Hydroxyestrone (2,3,4-$^{13}C_3$, 99%)	100 µg/mL in methanol	1 mL
CLM-9153	16α-Hydroxyestrone (2,3,4-$^{13}C_3$, 99%)	neat	0.1 mg
CLM-8011	DL-2-Hydroxyestrone (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
CLM-8016	DL-2-Hydroxyestrone-3-methyl ether (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
CLM-8013	DL-4-Hydroxyestrone (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
ULM-8134	2-Hydroxyestrone (unlabeled) CP 96%	neat	0.1 mg
ULM-8133	2-Hydroxyestrone-3-methyl ether (unlabeled)	neat	0.1 mg
ULM-8261	4-Hydroxyestrone (unlabeled) CP 96%	neat	0.1 mg
CDLM-9154-C	17α-Hydroxypregnenolone (20,21-$^{13}C_2$, 99%; 16,16-D_2, 99%)	100 µg/mL in methanol	1 mL
ULM-9155-C	17α-Hydroxypregnenolone (unlabeled)	100 µg/mL in methanol	1 mL
CLM-9157-C	17α-Hydroxyprogesterone (2,3,4-$^{13}C_3$, 98%)	100 µg/mL in methanol	1 mL
DLM-6598	17α-Hydroxyprogesterone (2,2,4,6,6,21,21,21-D_8, 98%)	neat	0.01 g
ULM-9156-C	17α-Hydroxyprogesterone (unlabeled) CP 95%	100 µg/mL in methanol	1 mL
DLM-9560	Lithocholic acid (2,2,4,4-D_4, 98%)	neat	50 mg
ULM-9559	Lithocholic acid (unlabeled)	neat	50 mg
CLM-8015	DL-2-Methoxyestradiol (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
CLM-8019	DL-4-Methoxyestradiol (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
ULM-8137	2-Methoxyestradiol (unlabeled)	neat	0.1 mg
ULM-8136	4-Methoxyestradiol (unlabeled)	neat	0.1 mg
CLM-8014	DL-2-Methoxyestrone (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
CLM-8017	DL-4-Methoxyestrone (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
ULM-8263	2-Methoxyestrone (unlabeled)	neat	0.1 mg
ULM-8262	4-Methoxyestrone (unlabeled)	neat	0.1 mg
CLM-2468	Norethindrone (ethynyl-$^{13}C_2$, 99%)	neat	0.01 g

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Sex and Steroidal Hormones *(continued)*

Catalog No.	Description	Concentration	Unit Size
DLM-8609	DL-Normetanephrine·HCl (α,β,β-D_3, 98%)	neat	5 mg, 10 mg
DLM-3979	19-Nortestosterone (16,16,17-D_3, 98%)	100 µg/mL in methanol	1.2 mL
DLM-3979	19-Nortestosterone (16,16,17-D_3, 98%)	neat	5 mg
ULM-4841	19-Nortestosterone (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-3754	5α-Pregnan-3α-ol-20-one (17,21,21,21-D_4, 96%) CP 95%	neat	0.01 g
DLM-2294	5β-Pregnan-3α-ol-20-one (17,21,21,21-D_4, 96%)	neat	0.01 g
DLM-3910	5α-Pregnane-3α,21-diol-20-one (17,21,21-D_3, 95%)	neat	0.01 g
DLM-3816	5α-Pregnane-3,20-dione (1,2,4,5,6,7-D_6, 95%)	neat	0.01 g, 0.05 g
CDLM-9158	Pregnenolone (20,21-$^{13}C_2$, 99%; 16,16-D_2, 98%)	neat	1 mg
ULM-9159	Pregnenolone (unlabeled)	neat	1 mg
CDLM-9160	Pregnenolone sulfate, sodium salt (20,21-$^{13}C_2$, 99%; 16,16-D_2, 98%)	neat	1 mg
ULM-9161	Pregnenolone sulfate, sodium salt (unlabeled)	neat	1 mg, 5 mg, 10 mg
CLM-457	Progesterone (3,4-$^{13}C_2$, 90%)	neat	0.01 g
CLM-9162-B	Progesterone (2,3,4-$^{13}C_3$, 99%)	50 µg/mL in acetonitrile	1 mL
CLM-9162-C	Progesterone (2,3,4-$^{13}C_3$, 99%)	100 µg/mL in acetonitrile	1 mL
CLM-9162	Progesterone (2,3,4-$^{13}C_3$, 99%)	neat	1 mg, 5 mg
DLM-7953	Progesterone (2,2,4,6,6,17α,21,21,21-D_9, 98%)	100 µg/mL in *p*-dioxane	1.2 mL
ULM-8219	Progesterone (unlabeled)	100 µg/mL in *p*-dioxane	1.2 mL
ULM-8132	Sodium estrone 3-sulfate (unlabeled)	neat	0.1 mg
DLM-9562	Taurochenodeoxycholic acid, sodium salt (2,2,4,4-D_4, 98%) CP 97%	neat	10 mg
DLM-9563	Taurochenodeoxycholic acid, sodium salt (2,2,3,4,4,6,6,7,8-D_9, 98%)	neat	5 mg
ULM-9561	Taurochenodeoxycholic acid, sodium salt (unlabeled)	neat	50 mg
DLM-9568	Taurodeoxycholic acid, sodium salt (2,2,4,4-D_4, 98%)	neat	10 mg
DLM-9567-C	Taurodeoxycholic acid, sodium salt (2,2,4,4,11,11-D_6, 98%)	100 µg/mL in methanol	1 mL
DLM-9567	Taurodeoxycholic acid, sodium salt (2,2,4,4,11,11-D_6, 98%)	neat	5 mg
DLM-9570-C	Taurolithocholic acid, sodium salt (2,2,4,4-D_4, 98%)	100 µg/mL in methanol	1 mL
DLM-9570	Taurolithocholic acid, sodium salt (2,2,4,4-D_4, 98%)	neat	10 mg
ULM-9569	Taurolithocholic acid, sodium salt (unlabeled)	neat	50 mg
CLM-159	Testosterone (3,4-$^{13}C_2$, 99%)	neat	0.01 g
CLM-9164-C	Testosterone (2,3,4-$^{13}C_3$, 99%)	100 µg/mL in methanol	1 mL
CLM-9164	Testosterone (2,3,4-$^{13}C_3$, 99%)	neat	5 mg, 10 mg
DLM-683	Testosterone (1,2-D_2, 98%)	100 µg/mL in MeCl	1.2 mL
DLM-8085	Testosterone (2,2,4,6,6-D_5, 98%)	100 µg/mL in MeCl	1.2 mL
DLM-8085-D	Testosterone (D_5, 98%)	100 µg/mL in dioxane	1.2 mL
COLM-9061	Testosterone (3,4-$^{13}C_2$, 99%; $^{17\text{-}18}O$, 98%)	100 µg/mL in MeCl	1.2 mL
ULM-8081	Testosterone (unlabeled)	100 µg/mL in MeCl	1.2 mL
ULM-8081-D	Testosterone (unlabeled)	100 µg/mL in dioxane	1.2 mL
ULM-9163	3α,5β-Tetrahydroaldosterone (unlabeled)	neat	1 mg
CLM-6725	L-Thyroxine (T4) (tyrosine-ring-$^{13}C_6$, 99%) CP 90%	neat	0.1 mg
CLM-8931	L-Thyroxine (T4) (ring-$^{13}C_{12}$, 99%) CP 97%	neat	0.1 mg
ULM-8184	L-Thyroxine (T4) (unlabeled)	neat	0.2 mg
DLM-9574-C	Ursodeoxycholic acid (2,2,4,4-D_4, 98%)	100 µg/mL in methanol	1 mL
DLM-9574	Ursodeoxycholic acid (2,2,4,4-D_4, 98%) CP 95%	neat	50 mg
ULM-9573	Ursodeoxycholic acid (unlabeled)	neat	50 mg

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Tobacco-Specific Nitrosamines and Other Tobacco-Related Standards

Catalog No.	Description	Concentration	Unit Size
CLM-6651	Anabasine (2,2′3,4,5,6-$^{13}C_6$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7281	Anabasine (unlabeled)	0.1 mg/mL in acetonitrile	1.2 mL
CLM-6652	Anatabine (2,2′,3,4,5,6-$^{13}C_6$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7282	Anatabine (unlabeled)	0.1 mg/mL in acetonitrile	1.2 mL
CLM-9692	DL-Cotinine (2′,3′,4′-$^{13}C_3$, 99%) CP 97%	100 µg/mL in water	1.2 mL
DLM-1819	DL-Cotinine (methyl-D_3, 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9614	Cotinine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9614-W	Cotinine (unlabeled)	100 µg/mL in water	1.2 mL
CLM-4556	4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanol) (NNAL) (1,2′,3′,4′,5′,6′-$^{13}C_6$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9434	4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanol) (NNAL) (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9434-20X	4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanol) (NNAL) (unlabeled)	2 mg/mL in acetonitrile	1.2 mL
CLM-6023	4-Methylumbelliferone (2,3,4,methyl-$^{13}C_4$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7309	4-Methylumbelliferone (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-3914	DL-Nicotine (3′,4′,5′-$^{13}C_3$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9547	Nicotine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-4555	Nicotine-derived nitrosamine ketone (NNK) (1,2′,3′,4′,5′,6′-$^{13}C_6$, 99%)	100 µg/mL in nonane:ethanol (9:1)	1.2 mL
CLM-4555-A	Nicotine-derived nitrosamine ketone (NNK) (1,2′,3′,4′,5′,6′-$^{13}C_6$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8987	Nicotine-derived nitrosamine ketone (NNK) (unlabeled)	100 µg/mL in nonane:ethanol (9:1)	1.2 mL
ULM-8987-20X	Nicotine-derived nitrosamine ketone (NNK) (unlabeled)	2 mg/mL in acetonitrile	1.2 mL
CLM-6705	*N*′-Nitrosoanabasine (NAB) ($^{13}C_6$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7168	*N*′-Nitrosoanabasine (NAB) (unlabeled)	0.5 mg/mL in acetonitrile	1.2 mL
ULM-7168-4X	*N*′-Nitrosoanabasine (NAB) (unlabeled)	2 mg/mL in acetonitrile	1.2 mL
CLM-6704	*N*′-Nitrosoanatabine (NAT) ($^{13}C_6$, 99%) CP 95%	100 µg/mL in acetonitrile	1.2 mL
ULM-7207	*N*′-Nitrosoanatabine (NAT) (unlabeled)	2 mg/mL in acetonitrile	1.2 mL
CLM-4557	*N*-Nitrosonornicotine (NNN) (2,2′,3,4,5,6-$^{13}C_6$, 99%)	100 µg/mL in nonane:ethanol (9:1)	1.2 mL
CLM-4557-A	*N*-Nitrosonornicotine (NNN) (2,2′,3,4,5,6-$^{13}C_6$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9406	*N*-Nitrosonornicotine (NNN) (unlabeled)	0.1 mg/mL in acetonitrile	1.2 mL
ULM-9406-20X	*N*-Nitrosonornicotine (NNN) (unlabeled)	2 mg/mL in acetonitrile	1.2 mL
CLM-4896	DL-Norcotinine (3′,4′,5′-$^{13}C_3$, 99%)	100 µg/mL in acetonitrile	1.2 mL
CLM-4892-MT	DL-Nornicotine (3′,4′,5′-$^{13}C_3$, 99%)	100 µg/mL in MTBE	1.2 mL
ULM-9615	Norcotinine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-2154-MT	Nornicotine (unlabeled)	100 µg/mL in MTBE	1.2 mL

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Veterinary and Human Antibiotics

Catalog No.	Description	Concentration	Unit Size
CLM-7407	Amoxicillin·3H_2O (phenyl-$^{13}C_6$, 99%) CP 95%	neat	1 mg
DLM-119	(±)-Chloramphenicol (ring-D_4, benzyl-D, 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-6687	(±)-Chloramphenicol (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CNLM-7539	Ciprofloxacin·HCl (2,3,carboxyl-$^{13}C_3$, 99%; quinoline-^{15}N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-7710	Ciprofloxacin·HCl·H_2O (unlabeled) CP 95%	100 µg/mL in methanol	1.2 mL
CDLM-10030-MT	Erythromycin (*N*-methyl-^{13}C, 99%; D_3, 98%) CP 97%	100 µg/mL in MTBE	1.2 mL
ULM-4322-MT	Erythromycin (unlabeled) CP 97%	100 µg/mL in MTBE	1.2 mL
CLM-3045	Sulfamethazine (phenyl-$^{13}C_6$, 90%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7220	Sulfamethazine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-6944	Sulfamethoxazole (ring-$^{13}C_6$, 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7527	Sulfamethoxazole (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-7988-A	Trimethoprim (pyrimidine-4,5,6-$^{13}C_3$, 99%)	50 µg/mL in methanol	1.2 mL
ULM-7989-A	Trimethoprim (unlabeled)	50 µg/mL in methanol	1.2 mL

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Protein Expression Reagents and Kits

The use of stable isotope-labeled proteins in MS- or NMR-based proteomics are useful standards as they exhibit similar physicochemical behavior as their endogenous (or natural) counterparts. Adding a labeled protein, either as an individual standard or as a mixture, at the beginning of a workflow can therefore help normalize for any variation that may occur throughout an analytical run. When used as quantitative standards, as is the case in preclinical and clinical MS applications, validated biomarkers can be screened for diagnostic or prognostic purposes.

To help facilitate the production of isotope-enriched recombinant proteins, CIL offers a diverse array of isotopically labeled prokaryotic and eukaryotic cell growth media. CIL also offers various wheat germ cell-free kits, such as the Premium Plus Expression Kit for MS, for protein expression. The listing below outlines our current offerings. The researcher perspective that follows discusses the different approaches to quantifying proteins using stable isotope-labeled proteins or peptides as internal standards.

Bacterial Cell Growth Media

Catalog No.	Description	Unit Size
CGM-1030P-C	Celtone Base Powder (^{13}C, 98%)	0.5 g, 1 g
CGM-1030P-N	Celtone Base Powder (^{15}N, 98%)	0.5 g, 1 g
CGM-1030P-D	Celtone Base Powder (D, 97%)	0.5 g, 1 g
CGM-1030P-CN	Celtone Base Powder (^{13}C, 98%; ^{15}N, 98%)	0.5 g, 1 g
CGM-1030P-DN	Celtone Base Powder (D, 97%; ^{15}N, 98%)	0.5 g, 1 g
CGM-1030P-CDN	Celtone Base Powder (^{13}C, 98%; D, 97%; ^{15}N, 98%)	0.5 g, 1 g
CGM-1030P-U	Celtone Base Powder (unlabeled)	1 g
CGM-1050P-C	Celtone Plus Base Powder (U-^{13}C, 97%)	1 g, 10 g
CGM-1050P-N	Celtone Plus Base Powder (U-^{15}N, 97%)	1 g
CGM-1050P-D	Celtone Plus Base Powder (U-D, 97%)	1 g
CGM-1050P-DN	Celtone Plus Base Powder (U-D, 97%; U-^{15}N, 97%)	1 g
CGM-1050P-CDN	Celtone Plus Base Powder (U-^{13}C, 97%; U-D, 97%; U-^{15}N, 97%)	1 g
CGM-1050P-U	Celtone Plus Base Powder (unlabeled)	1 g
CGM-1040-C	Celtone Complete Medium (^{13}C, 98%)	0.1 L, 1 L
CGM-1040-N	Celtone Complete Medium (^{15}N, 98%)	0.1 L, 1 L
CGM-1040-D	Celtone Complete Medium (D, 97%)	0.1 L, 1 L
CGM-1040-CN	Celtone Complete Medium (^{13}C, 98%; ^{15}N, 98%)	0.1 L, 1 L
CGM-1040-DN	Celtone Complete Medium (D, 97%; ^{15}N, 98%)	0.1 L, 1 L
CGM-1040-CDN	Celtone Complete Medium (^{13}C, 98%; D, 97%; ^{15}N, 98%)	0.1 L, 1 L
CGM-1040-U	Celtone Complete Medium (unlabeled)	0.1 L, 1 L
CGM-1000-C	BioExpress Cell Growth Media (U-^{13}C, 98%) 10x concentrate	100 mL kit
CGM-1000-N	BioExpress Cell Growth Media (U-^{15}N, 98%) 10x concentrate	100 mL kit
CGM-1000-D	BioExpress Cell Growth Media (U-D, 98%) 10x concentrate	100 mL kit
CGM-1000-CN	BioExpress Cell Growth Media (U-^{13}C, 98%; U-^{15}N, 98%) 10x concentrate	100 mL kit
CGM-1000-CD	BioExpress Cell Growth Media (U-^{13}C, 98%; U-D, 98%) 10x concentrate	100 mL kit
CGM-1000-DN	BioExpress Cell Growth Media (U-D, 98%; U-^{15}N, 98%) 10x concentrate	100 mL kit
CGM-1000-CDN	BioExpress Cell Growth Media (U-^{13}C, 98%; U-D, 98%, U-^{15}N, 98%) 10x concentrate	100 mL kit
CGM-1000-U	BioExpress Cell Growth Media (unlabeled) 10x concentrate	100 mL kit
CGM-1020-SL-C	E. coli-OD2 (^{13}C, 98%)	1 L
CGM-1020-SL-N	E. coli-OD2 (^{15}N, 98%)	1 L
CGM-1020-SL-D	E. coli-OD2 (D, 98%)	1 L
CGM-1020-SL-CN	E. coli-OD2 (^{13}C, 98%; ^{15}N, 98%)	1 L
CGM-1020-SL-CDN	E. coli-OD2 (^{13}C, 98%; D, 98%; ^{15}N, 98%)	1 L
CGM-1020-SL-U-S	E. coli-OD2 (unlabeled)	200 mL
CGM-3030-C	Spectra 9 (^{13}C, 98%)	0.5 L, 1 L
CGM-3030-N	Spectra 9 (^{15}N, 98%)	0.5 L, 1 L
CGM-3030-D	Spectra 9 (D, 97%)	0.5 L, 1 L
CGM-3030-CN	Spectra 9 (^{13}C, 98%; ^{15}N, 98%)	0.5 L, 1 L
CGM-3030-DN	Spectra 9 (D, 97%; ^{15}N, 98%)	0.5 L, 1 L
CGM-3030-CDN	Spectra 9 (^{13}C, 98%; D, 97%; ^{15}N, 98%)	0.5 L, 1 L
CGM-3030-U	Spectra 9 (unlabeled)	0.1 L, 1 L

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Protein Expression Reagents and Kits *(continued)*

Minimal Media Reagents

Catalog No.	Description	Unit Size
NLM-467	Ammonium chloride (^{15}N, 99%)	1 g, 5 g, 10 g, 25 g, 50 g
NLM-713	Ammonium sulfate ($^{15}N_2$, 99%)	1 g, 5 g, 10 g, 25 g, 50 g
DLM-4-99	Deuterium oxide (D, 99%)	1000 g, 5000 g
DLM-4-99.8	Deuterium oxide (D, 99.8%)	1000 g
DLM-4	Deuterium oxide (D, 99.9%)	10 g, 100 g, 1000 g
CLM-1396	D-Glucose (U-$^{13}C_6$, 99%)	0.1 mg, 0.25 g, 0.5 g, 1 g, 2 g, 5 g, 10 g, 25 g, 50 g
DLM-2062	D-Glucose (1,2,3,4,5,6,6-D_7, 97%)	0.5 g, 1 g, 5 g, 10 g, 20 g
CDLM-3813	D-Glucose (U-$^{13}C_6$, 99%; 1,2,3,4,5,6,6-D_7, 97%)	1 g, 2 g, 10 g
CLM-1510	Glycerol ($^{13}C_3$, 99%)	1 g, 5 g
DLM-558	Glycerol (D_8, 99%)	1 g, 5 g

Insect Cell Growth Media

CGM-2000-CN	BioExpress® 2000 (U-^{13}C, 98%; U-^{15}N, 98%)	1 kit
CGM-2000-N	BioExpress® 2000 (U-^{15}N, 98%)	1 kit
CGM-2000-U	BioExpress® 2000 (unlabeled)	1 kit

Yeast Cell Growth Media

CGM-4020-SL-C	Yeast-OD2 (^{13}C, 98%)	1 L
CGM-4020-SL-N	Yeast-OD2 (^{15}N, 98%)	1 L
CGM-4020-SL-CN	Yeast-OD2 (^{13}C, 98%; ^{15}N, 98%)	1 L
CGM-4020-SL-U	Yeast-OD2 (unlabeled)	1 L

Mammalian Cell Growth Media

CGM-6000-N	BioExpress® 6000 (U-^{15}N, 98%)	1 L
CGM-6000-CN	BioExpress® 6000 (U-^{13}C, 98%; U-^{15}N, 98%)	1 L
CGM-6000-U	BioExpress® 6000 (unlabeled)	1 L

Kits for Cell-Free Protein Expression

Catalog No.	Description	Contents	Specifications
CFS-PRK-G24	Protein Research Kit (G)	Premixed transcription and translation reagents for GST-fusion protein expression. Reaction scale is 226 µL.	24 reactions
CFS-PRK-H24	Protein Research Kit (H)	Premixed transcription and translation reagents for His-fusion protein expression. Reaction scale is 226 µL.	24 reactions
CFS-PRK-S24	Protein Research Kit (S)	Premixed transcription and translation reagents for protein expression. Reaction scale is 226 µL.	24 reactions
CFS-TRI-PLE-BD	Proteoliposome BD Expression Kit	WEPRO 7240, transcription buffer LM, NTP mix, SP6 RNA polymerase, RNase inhibitor, creatine kinase, pEU-E01-T1R1 plasmid, SUB-AMIX SGC S1-S4, and asolectin liposome. Reaction scale is 2.5 mL.	6 reactions
CFS-TRI-PLE	Proteoliposome Expression Kit	WEPRO 7240, transcription buffer LM, NTP mix, SP6 RNA polymerase, RNase inhibitor, creatine kinase, pEU-E01-T1R1 plasmid, SUB-AMIX SGC S1-S4, and asolectin liposome. Reaction scale is 4 mL.	6 reactions
CFS-EDX-PLUS	Premium PLUS Expression Kit	Expression vector (pEU-E01-MCS), PCR primer for transcription and translation, positive control, and reaction cups. Reaction scale is 227 µL.	8 reactions
CFS-EDX-PLUS-MS	Premium PLUS Expression Kit for MS	Expression vector (pEU-E01-MCS), PCR primer set (SPU, deSP6E01), transcription premix LM, WEPRO9240 and SUB-AMIX SGC for MS, positive control, and reaction cups. Reaction scale is 227 µL.	16 reactions
CFS-EDX-PLE-PLUS	Proteoliposome Premium PLUS Expression Kit	Expression vector, primers for DNA preparation by PCR, prepared apolection-liposomes, positive control, and reaction cups. Reaction scale is 226 µL.	8 reactions

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Steroids and Hormones

Steroids and hormones play vital roles in the regulation of a diverse array of cellular functions and physiological processes. These pertain to development, reproduction, homeostasis, and metabolism, among others. Accurate quantification of this compound class is essential for basic and clinical translation research. This can be achieved by spiking an isotopically labeled steroid standard(s) into a sample of interest, such as plasma or urine, with measurement performed by an MS- or NMR-based approach.

CIL offers a variety of stable isotope-labeled and unlabeled steroids and hormones. These are available in different labeling patterns in their neat and/or solution forms.

Catalog No.	Description	Concentration	Unit Size
DLM-10472-C	Aldosterone (9,11,12,12-D_4, 98%) CP 97%	100 µg/mL in acetonitrile	1 mL
DLM-8438-C	Aldosterone (2,2,4,6,6,17,21,21-D_8)	100 µg/mL in acetonitrile	1 mL
DLM-8438	Aldosterone (2,2,4,6,6,17,21,21-D_8)	neat	1 mg, 2 mg, 5 mg
ULM-9134-C	Aldosterone (unlabeled)	100 µg/mL in acetonitrile	1 mL
ULM-9134	Aldosterone (unlabeled) CP 95%	neat	1 mg, 5 mg
DLM-10269	5α-Androstan-3β-ol-17-one (epiandrosterone) (2,2,4,4-D_4, 98%)	neat	1 mg, 5 mg
ULM-10270	5α-Androstan-3β-ol-17-one (epiandrosterone) (unlabeled)	neat	1 mg
CLM-10548	5α-Androstan-3,17-dione (androstanedione) (2,3,4-$^{13}C_3$, 98%)	neat	1 mg
ULM-8794-C	5α-Androstan-3,17-dione (androstanedione) (unlabeled) CP 95%	100 µg/mL in methanol	1 mL
ULM-8794	5α-Androstan-3,17-dione (androstanedione) (unlabeled)	neat	1 mg
DLM-8750	5β-Androstan-3α-ol-17-one (etiocholanolone) (16,16-D_2, 98%)	neat	Please inquire
DLM-10008-C	5β-Androstan-3α-ol-17-one (etiocholanolone) (2,2,3,4,4-D_5, 98%)	100 µg/mL in methanol	1 mL
DLM-10008	5β-Androstan-3α-ol-17-one (etiocholanolone) (2,2,3,4,4-D_5, 98%)	neat	1 mg
ULM-10009-C	5β-Androstan-3α-ol-17-one (etiocholanolone) (unlabeled)	100 µg/mL in methanol	1 mL
ULM-10009	5β-Androstan-3α-ol-17-one (etiocholanolone) (unlabeled)	neat	1 mg
DLM-9769-C	5α-Androstane-3α,17β-diol (16,16,17-D_3, 98%) CP 95%	100 µg/mL in methanol	1 mL
DLM-9769	5α-Androstane-3α,17β-diol (16,16,17-D_3, 98%) CP 95%	neat	1 mg
ULM-9752-C	5α-Androstane-3α,17β-diol (unlabeled)	100 µg/mL in methanol	1 mL
ULM-9752	5α-Androstane-3α,17β-diol (unlabeled)	neat	1 mg
ULM-10732	5α-Androstane-3β,17β-diol (unlabeled)	neat	1 mg
DLM-9787	Androstanediol glucuronide, sodium salt (16,16,17-D_3, 98%) CP 97%	neat	1 mg
DLM-10396	4-Androsten-11β-ol-3,17-dione (9,11,12,12-D_4, 98%)	neat	1 mg
DLM-9697	4-Androsten-11β-ol-3,17-dione (2,2,4,6,6,16,16-D_7, 98%)	neat	Please inquire
DLM-10397	4-Androsten-11β-17β-diol-3-one (9,11,12,12-D_4, 98%) CP 95%	neat	1 mg
DLM-10401-1.2	5-Androsten-3β-17β-diol (16,16,17-D_3, 98%) CP 95%	100 µg/mL in methanol	1.2 mL
DLM-10401	5-Androsten-3β-17β-diol (16,16,17-D_3, 98%) CP 95%	neat	1 mg
CLM-9135-D	4-Androstene-3,17-dione (2,3,4-$^{13}C_3$, 98%)	1000 µg/mL in methanol	1 mL
CLM-9135-C	4-Androstene-3,17-dione (2,3,4-$^{13}C_3$, 98%)	100 µg/mL in methanol	1 mL
CLM-9135	4-Androstene-3,17-dione (2,3,4-$^{13}C_3$, 98%)	neat	5 mg, 10 mg
DLM-8330	4-Androstene-3,17-dione (2,2,4,6,6-D_5, 98%)	neat	0.05 g, 0.1 g
DLM-7976	4-Androstene-3,17-dione (2,2,4,6,6,16,16-D_7, 97%)	neat	0.05 g, 0.1 g
ULM-8472	4-Androstene-3,17-dione (unlabeled)	neat	1 mg, 5 mg, 10 mg
DLM-10420-C	4-Androstene-6β,17β-diol-3-one (16,16,17-D_3, 98%) CP 95%	100 µg/mL in methanol	1 mL
DLM-10420	4-Androstene-6β,17β-diol-3-one (16,16,17-D_3, 98%)	neat	1 mg
DLM-7937	Androsterone (5α-androstan-3α-ol-17-one) (16,16-D_2, 98%)	neat	Please inquire
DLM-10402-C	Androsterone (5α-androstan-3α-ol-17-one) (2,2,4,4-D_4, 98%)	100 µg/mL in methanol	1 mL
DLM-10402	Androsterone (5α-androstan-3α-ol-17-one) (2,2,4,4-D_4, 98%) CP 95%	neat	1 mg
ULM-10403-C	Androsterone (5α-androstan-3α-ol-17-one) (unlabeled)	100 µg/mL in methanol	1 mL
ULM-10403	Androsterone (5α-androstan-3α-ol-17-one) (unlabeled)	neat	1 mg
DLM-9137	Androsterone glucuronide, sodium salt (2,2,4,4-D_4, 98%)	neat	Please inquire
ULM-9138	Androsterone glucuronide, sodium salt (unlabeled)	neat	5 mg, 10 mg
DLM-4700	5α-Cholestane (5α-cholane) (3,3-D_2, 98%)	neat	Please inquire
DLM-8276	Cholestenone (2,2,4,6,6-D_5, 98%)	neat	0.1 g
CLM-804	Cholesterol (3,4-$^{13}C_2$, 99%)	neat	0.1 g
CLM-9139-C	Cholesterol (2,3,4-$^{13}C_3$, 98%)	100 µg/mL in ethanol	1 mL

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Steroids and Hormones *(continued)*

Catalog No.	Description	Concentration	Unit Size
CLM-9139	Cholesterol (2,3,4-$^{13}C_3$, 99%)	neat	2 mg, 5 mg
CLM-9587-1.2	Cholesterol (23,24,25,26,27-$^{13}C_5$, 99%)	100 µg/mL in methanol	1.2 mL
CLM-9587	Cholesterol (23,24,25,26,27-$^{13}C_5$, 99%)	neat	2 mg, 5 mg
DLM-1831	Cholesterol (3-D, 97%)	neat	Please inquire
DLM-7260	Cholesterol (25,26,26,26-D_4, 98%)	neat	Please inquire
DLM-2607-C	Cholesterol (2,2,3,4,4,6-D_6, 97%) CP 97%	100 µg/mL in ethanol	1 mL
DLM-2607	Cholesterol (2,2,3,4,4,6-D_6, 97%)	neat	0.1 g
DLM-3057	Cholesterol (25,26,26,26,27,27,27-D_7, 98%)	neat	10 mg, 0.1 g
OLM-7695	Cholesterol (^{18}O, 95%)	neat	Please inquire
ULM-9140-1.2	Cholesterol (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-9140	Cholesterol (unlabeled) CP 97%	neat	1 mg, 5 mg, 10 mg
CLM-3361	Cholesterol-3-octanoate (octanoate-1-^{13}C, 99%)	neat	1 g
DLM-10416	Cholesterol-3-sulfate, sodium salt (25,26,26,26,27,27,27-D_7, 98%)	neat	1 mg
CLM-11838-C	Corticosterone (3,4,20,21-$^{13}C_4$, 98%) CP 95%	100 µg/mL in methanol	1 mL
DLM-11017-C	Corticosterone (9,11,12,12-D_4, 98%) CP 97%	100 µg/mL in acetonitrile	1 mL
DLM-11017	Corticosterone (9,11,12,12-D_4, 98%)	neat	1 mg, 5 mg
DLM-7347	Corticosterone (2,2,4,6,6,17α,21,21-D_8, 97%)	neat	10 mg
ULM-9988	Corticosterone (unlabeled)	neat	1 mg
CLM-10371-C	Cortisol (2,3,4-$^{13}C_3$, 99%)	100 µg/mL in methanol	1 mL
DLM-2615	Cortisol (1,2-D_2, 98%)	neat	Please inquire
DLM-2057	Cortisol (9,12,12-D_3, 98%)	neat	10 mg
DLM-2218	Cortisol (9,11,12,12-D_4, 98%)	neat	0.1 mg, 10 mg
ULM-9141	Cortisol (unlabeled)	neat	1 mg, 5 mg, 10 mg
DLM-10471	Cortisol-21-sulfate, sodium salt (9,11,12,12-D_4, 98%) CP 95%	neat	1 mg
CLM-10536-C	Cortisone (2,3,4-$^{13}C_3$, 98%) CP 97%	100 µg/mL in methanol	1 mL
DLM-8863	Cortisone (1,2-D_2, 98%) CP 95%	neat	Please inquire
DLM-9142-C	Cortisone (2,2,4,6,6,12,12-D_7, 98%)	100 µg/mL in methanol	1 mL
DLM-9976	Cortisone (2,2,4,6,6,9,12,12-D_8, 98%)	neat	1 mg, 5 mg
ULM-9202-C	Cortisone (unlabeled)	100 µg/mL in methanol	1 mL
ULM-9202	Cortisone (unlabeled)	neat	1 mg, 5 mg, 10 mg
CLM-11710	7-Dehydrocholesterol (23,24,25,26,27-$^{13}C_5$, 98%) CP 95%	neat	1 mg
DLM-4216	7-Dehydrocholesterol (25,26,26,26,27,27,27-D_7, 98%)	neat	Please inquire
DLM-11835-C	11-Dehydrodexamethasone (D_3, 98%) CP 95%	100 µg/mL in methanol	1 mL
CLM-10549-C	Dehydroepiandrosterone (DHEA) (2,3,4-$^{13}C_3$, 99%)	100 µg/mL in methanol	1 mL
CLM-10549	Dehydroepiandrosterone (DHEA) (2,3,4-$^{13}C_3$, 99%)	neat	1 mg
DLM-7714	Dehydroepiandrosterone (DHEA) (16,16-D_2, 97%)	neat	0.1 g
DLM-8049-C	Dehydroepiandrosterone (DHEA) (2,2,3,4,4,6-D_6, 97%)	100 µg/mL in methanol	1 mL
DLM-8049	Dehydroepiandrosterone (DHEA) (2,2,3,4,4,6-D_6, 98%) CP 97%	neat	5 mg
ULM-9143-D	Dehydroepiandrosterone (DHEA) (unlabeled)	1000 µg/mL in methanol	1 mL
ULM-9143-C	Dehydroepiandrosterone (DHEA) (unlabeled)	100 µg/mL in methanol	1 mL
ULM-9143	Dehydroepiandrosterone (DHEA) (unlabeled)	neat	1 mg, 5 mg, 10 mg
DLM-8701	Dehydroepiandrosterone sulfate (DHEA-S), sodium salt (16,16-D_2, 97%)	neat	Please inquire
ULM-9144-D	Dehydroepiandrosterone sulfate (DHEA-S), sodium salt (unlabeled)	1000 µg/mL in methanol	1 mL
ULM-9144-C	Dehydroepiandrosterone sulfate (DHEA-S), sodium salt (unlabeled)	100 µg/mL in methanol	1 mL
ULM-9144	Dehydroepiandrosterone sulfate (DHEA-S), sodium salt (unlabeled)	neat	1 mg, 5 mg, 10 mg
DLM-8337-C	Dehydroepiandrosterone sulfate (DHEA-S), sodium salt·2H_2O (2,2,3,4,4,6-D_6, 95%)	100 µg/mL in methanol	1 mL
DLM-8337	Dehydroepiandrosterone sulfate (DHEA-S), sodium salt·2H_2O (2,2,3,4,4,6-D_6, 95%)	neat	5 mg
CLM-10010-C	11-Deoxycorticosterone (DOC) (2,3,4-$^{13}C_3$, 99%)	100 µg/mL in methanol	1 mL
CLM-10010	11-Deoxycorticosterone (DOC) (2,3,4-$^{13}C_3$, 99%)	neat	Please inquire
CLM-11834-C	11-Deoxycorticosterone (DOC) (3,4,20,21-$^{13}C_4$, 98%) CP 95%	100 µg/mL in methanol	1 mL
DLM-11249	11-Deoxycorticosterone (DOC) (2,2,6,6,17,21,21-D_7, 96%)	neat	Please inquire
DLM-7228	11-Deoxycorticosterone (DOC) (2,2,4,6,6,17,21,21-D_8, 96%) CP 97%	neat	Please inquire
ULM-10011-C	11-Deoxycorticosterone (DOC) (unlabeled)	100 µg/mL in methanol	1 mL

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Catalog No.	Description	Concentration	Unit Size
ULM-10011	11-Deoxycorticosterone (DOC) (unlabeled)	neat	1 mg
CLM-11840-C	21-Deoxycorticosterone (DOC) (3,4,20,21-$^{13}C_4$, 98%) CP 95%	100 µg/mL in methanol	1 mL
CLM-10384-C	11-Deoxycortisol (2,3,4-$^{13}C_3$, 99%) CP 97%	100 µg/mL in methanol	1 mL
CLM-10384	11-Deoxycortisol (2,3,4-$^{13}C_3$, 99%) CP 97%	neat	1 mg
DLM-7209	11-Deoxycortisol (21,21-D_2, 96%)	neat	5 mg, 10 mg
DLM-8336-C	11-Deoxycortisol (2,2,4,6,6-D_5, 98%)	100 µg/mL in methanol	1 mL
DLM-8336	11-Deoxycortisol (2,2,4,6,6-D_5, 98%) CP 97%	neat	5 mg, 10 mg
ULM-9145-D	11-Deoxycortisol (unlabeled)	1000 µg/mL in methanol	1 mL
ULM-9145-C	11-Deoxycortisol (unlabeled)	100 µg/mL in methanol	1 mL
ULM-9145	11-Deoxycortisol (unlabeled)	neat	1 mg, 5 mg, 10 mg
CLM-11709-C	21-Deoxycortisol (2,3,4-$^{13}C_3$, 98%) CP 98%	100 µg/mL in methanol	1 mL
DLM-11414	21-Deoxycortisol (9,11,11,12-D_4, 98%) CP 95%	neat	Please inquire
DLM-8305	21-Deoxycortisol (2,2,4,6,6,21,21,21-D_8, 97%)	neat	10 mg
ULM-9987-C	21-Deoxycortisol (unlabeled)	100 µg/ml in methanol	1 mL
ULM-9987	21-Deoxycortisol (unlabeled)	neat	1 mg
CLM-11836-C	21-Deoxycortisone (2,3,4-$^{13}C_3$, 98%) CP 95%	100 µg/mL in methanol	1 mL
DLM-11827	Dexamethasone (D_3, 98%) CP 95%	neat	1 mg
DLM-170-D-1.2	Diethylstilbestrol (ring-3,3′,5,5′-diethyl-1,1,1′,1′-D_8, 98%) *cis*/*trans* mix	100 µg/mL in dioxane	1.2 mL
DLM-170	Diethylstilbestrol (ring-3,3′,5,5′-diethyl-1,1,1′,1′-D_8, 98%) *cis*/*trans* mix	neat	0.05 g, 0.1 g
CLM-9146-D	5α-Dihydrotestosterone (2,3,4-$^{13}C_3$, 99%) CP 97%	1000 µg/mL in methanol	1 mL
CLM-9146-C	5α-Dihydrotestosterone (2,3,4-$^{13}C_3$, 99%) CP 97%	100 µg/mL in methanol	1 mL
CLM-9146	5α-Dihydrotestosterone (2,3,4-$^{13}C_3$, 99%) CP 97%	neat	1 mg, 5 mg, 10 mg
DLM-3023	5α-Dihydrotestosterone (16,16,17-D_3, 98%)	neat	Please inquire
DLM-9041	5α-Dihydrotestosterone (2,2,4,4-D_4, 98%) CP 95%	neat	1 mg
ULM-8364-D	5α-Dihydrotestosterone (unlabeled)	1 mg/mL in methanol	1 mL
ULM-8364-C	5α-Dihydrotestosterone (unlabeled)	100 µg/mL in methanol	1 mL
ULM-8364	5α-Dihydrotestosterone (unlabeled)	neat	Please inquire
CLM-9222-C	L-3,3′-Diiodothyronine (T2) (phenoxy-$^{13}C_6$, 99%) CP 97%	100 µg/mL in 0.1 N NH_3 in methanol	1 mL
CLM-9222	L-3,3′-Diiodothyronine (T2) (phenoxy-$^{13}C_6$, 99%) CP 97%	neat	1 mg, 5 mg
ULM-9223-C	L-3,3′-Diiodothyronine (T2) (unlabeled)	100 µg/mL in 0.1 N NH_3 in methanol	1 mL
ULM-9223	L-3,3′-Diiodothyronine (T2) (unlabeled)	neat	1 mg, 5 mg, 10 mg
CLM-7768	Epicholesterol (3,4-$^{13}C_2$, 99%)	neat	0.1 g
DLM-9088	DL-Epinephrine (ring-D_3,1,2,2-D_3, 98%)	neat	Please inquire
CNLM-7889	DL-Epinephrine (1,2-$^{13}C_2$, 99%; ^{15}N, 98%)	neat	10 mg
CLM-11416	Epitestosterone (2,3,4-$^{13}C_3$, 98%) CP 95%	neat	Please inquire
CLM-803-1.2	Estradiol (3,4-$^{13}C_2$, 99%)	100 µg/mL in acetonitrile	1.2 mL
CLM-803	Estradiol (3,4-$^{13}C_2$, 99%)	neat	Please inquire
DLM-3694	Estradiol (16,16,17-D_3, 98%) CP 95%	neat	1 mg, 10 mg
DLM-2487	Estradiol (2,4,16,16-D_4, 95%)	neat	5 mg
ULM-7449-1.2	Estradiol (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-7449	Estradiol (unlabeled)	neat	0.1 mg
CLM-7936-1.2	DL-Estradiol (13,14,15,16,17,18-$^{13}C_6$, 99%)	100 µg/mL in methanol	1.2 mL
CLM-7936	DL-Estradiol (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
CLM-10404-C	Estradiol undecanoate (2,3,4-$^{13}C_3$, 98%) CP 95%	100 µg/mL in methanol	1 mL
CLM-10404	Estradiol undecanoate (2,3,4-$^{13}C_3$, 98%) CP 95%	neat	1 mg
CLM-9147-C	Estriol (16α-hydroxyestradiol) (2,3,4-$^{13}C_3$, 99%) CP 97%	100 µg/mL in methanol	1 mL
CLM-9147	Estriol (16α-hydroxyestradiol) (2,3,4-$^{13}C_3$, 99%) CP 97%	neat	0.1 mg, 0.25 mg, 0.5 mg, 1 mg
DLM-8586	Estriol (2,4,16-D_3, 98%) CP 96%	neat	5 mg, 10 mg
DLM-8343	Estriol (2,4,17-D_3, 98%) CP 96%	neat	Please inquire
ULM-8218	Estriol (unlabeled)	neat	0.1 mg

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Steroids and Hormones *(continued)*

Catalog No.	Description	Concentration	Unit Size
CLM-673-1.2	Estrone (3,4-$^{13}C_2$, 90%)	100 µg/mL in acetonitrile	1.2 mL
CLM-673	Estrone (3,4-$^{13}C_2$, 99%)	neat	Please inquire
CLM-9148-C	Estrone (2,3,4-$^{13}C_3$, 99%)	100 µg/mL in methanol	1 mL
CLM-9148-B	Estrone (2,3,4-$^{13}C_3$, 99%)	50 µg/mL in methanol	1 mL
CLM-9148	Estrone (2,3,4-$^{13}C_3$, 99%)	neat	1 mg, 5 mg
DLM-3976	Estrone (2,4,16,16-D_4, 97%)	neat	5 mg
CLM-7935-1.2	DL-Estrone (13,14,15,16,17,18-$^{13}C_6$, 99%) CP 95%	100 µg/mL in methanol	1.2 mL
CLM-7935	DL-Estrone (13,14,15,16,17,18-$^{13}C_6$, 99%) CP 95%	neat	0.1 mg
CLM-8033	DL-Estrone 3-methyl ether (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
ULM-10356	Estrone 3-methyl ether (unlabeled)	neat	0.1 mg
CLM-3375-1.2	Ethynylestradiol (20,21-$^{13}C_2$, 99%) CP 97%	100 µg/mL in acetonitrile	1.2 mL
ULM-7211-1.2	Ethynylestradiol (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-4691	17α-Ethynylestradiol (2,4,16,16-D_4, 97%)	neat	10 mg
DLM-11826	Flumethasone (D_3, 98%) CP 95%	neat	1 mg
CLM-11415	7α-Hydroxy-4-cholesten-3-one (23,24,25,26,27-$^{13}C_5$, 98%) CP 95%	neat	Please inquire
ULM-10267	7α-Hydroxycholesterol (unlabeled)	neat	1 mg
DLM-8646	7β-Hydroxycholesterol (25,26,26,26,27,27,27-D_7, 98%) CP 97%	neat	Please inquire
ULM-10268	7β-Hydroxycholesterol (unlabeled)	neat	Please inquire
DLM-9150-C	18-Hydroxycorticosterone (9,11,12,12-D_4, 98%)	100 µg/mL in acetonitrile	1 mL
DLM-9150	18-Hydroxycorticosterone (9,11,12,12-D_4, 98%) CP 95%	neat	1 mg
ULM-9151-C	18-Hydroxycorticosterone (unlabeled) CP 95%	100 µg/mL in methanol	1 mL
ULM-9151	18-Hydroxycorticosterone (unlabeled) CP 95%	neat	1 mg
ULM-10007-C	18-Hydroxycortisol (unlabeled) CP 97%	100 µg/mL in methanol	1 mL
ULM-10007	18-Hydroxycortisol (unlabeled) CP 95%	neat	1 mg
ULM-8134	2-Hydroxyestrone (unlabeled)	neat	0.1 mg
ULM-8261	4-Hydroxyestrone (unlabeled) CP 96%	neat	0.1 mg
CLM-8012	DL-2-Hydroxyestradiol (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
ULM-8133	2-Hydroxyestrone-3-methyl ether (unlabeled) CP 97%	neat	0.1 mg
CLM-9153-C	16α-Hydroxyestrone (2,3,4-$^{13}C_3$,99%)	100 µg/mL in methanol	1 mL
CLM-9153	16α-Hydroxyestrone (2,3,4-$^{13}C_3$, 99%)	neat	0.1 mg, 0.25 mg, 0.5 mg, 1 mg
ULM-9152-C	16α-Hydroxyestrone (unlabeled)	100 µg/mL in methanol	1 mL
CLM-8011	DL-2-Hydroxyestrone (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
CLM-8016	DL-2-Hydroxyestrone-3-methyl ether (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
CLM-8013	DL-4-Hydroxyestrone (13,14,15,16,17,18-$^{13}C_6$, 99%) CP 97%	neat	0.1 mg
DLM-7206	17α-Hydroxypregnenolone (21,21,21-D_3, 97%)	neat	Please inquire
CDLM-9154-C	17α-Hydroxypregnenolone (20,21-$^{13}C_2$, 98%; 16,16-D_2, 98%)	100 µg/mL in methanol	1 mL
CDLM-9154	17α-Hydroxypregnenolone (20,21-$^{13}C_2$, 98%; 16,16-D_2, 98%)	neat	1 mg
ULM-9155-C	17α-Hydroxypregnenolone (unlabeled)	100 µg/mL in methanol	1 mL
ULM-9155	17α-Hydroxypregnenolone (unlabeled)	neat	Please inquire
CLM-9157-D	17α-Hydroxyprogesterone (2,3,4-$^{13}C_3$, 98%)	1000 µg/mL in methanol	1 mL
CLM-9157-C	17α-Hydroxyprogesterone (2,3,4-$^{13}C_3$, 98%)	100 µg/mL in methanol	1 mL
CLM-9157	17α-Hydroxyprogesterone (2,3,4-$^{13}C_3$, 98%)	neat	1 mg, 5 mg
DLM-6598	17α-Hydroxyprogesterone (2,2,4,6,6,21,21,21-D_8, 98%)	neat	10 mg, 0.05 g
ULM-9156-C	17α-Hydroxyprogesterone (unlabeled) CP 95%	100 µg/mL in methanol	1 mL
ULM-9156	17α-Hydroxyprogesterone (unlabeled)	neat	1 mg, 5 mg, 10 mg
CLM-11837-C	11β-Hydroxytestosterone (2,3,4-$^{13}C_3$, 98%) CP 95%	100 µg/mL in methanol	1 mL
CLM-11708-F	11-Ketoandrostenedione (11-KA4) (2,3,4-$^{13}C_3$, 98%) CP 95%	10 µg/mL in methanol	1 mL
DLM-11248	11-Ketoandrostenedione (11-KA4) (D_{10}, 98%) CP 95%	neat	Please inquire
DLM-8647	7-Ketocholesterol (7-KC) (25,26,26,26,27,27,27-D_7, 99%)	neat	Please inquire
CLM-11839-C	11-Ketoprogesterone (3,4,20,21-$^{13}C_4$, 98%) CP 95%	100 µg/mL in methanol	1 mL
DLM-10395	11-Ketotestosterone (11-KT) (16,16,17-D_3) CP 95%	neat	1 mg
DLM-7101	Melatonin (acetyl-D_3, 98%)	neat	5 mg, 10 mg

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Catalog No.	Description	Concentration	Unit Size
DLM-3560	DL-Metanephrine·HCl (α,β,β-D_3, 98%)	neat	5 mg, 10 mg
CLM-8015	DL-2-Methoxyestradiol (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
ULM-8137	DL-2-Methoxyestradiol (unlabeled)	neat	0.1 mg
CLM-8014	DL-2-Methoxyestrone (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
CLM-8017	DL-4-Methoxyestrone (13,14,15,16,17,18-$^{13}C_6$, 99%)	neat	0.1 mg
ULM-8263	2-Methoxyestrone (unlabeled)	neat	0.1 mg
ULM-8262	4-Methoxyestrone (unlabeled)	neat	0.1 mg
DLM-8820	DL-Norepinephrine (noradrenaline)·HCl (ring-D_3,1,2,2-D_3, 99%)	neat	5 mg, 10 mg
CLM-2468	Norethindrone (ethynyl-$^{13}C_2$, 99%)	neat	10 mg
CLM-9980	Nestorone (16-methylene-^{13}C, 20,21-$^{13}C_2$, 99%) CP 96%	neat	Please inquire
DLM-8609	DL-Normetanephrine·HCl (α,β,β-D_3, 98%)	neat	5 mg, 10 mg
DLM-3979-1.2	19-Nortestosterone (16,16,17-D_3, 98%)	100 µg/mL in methanol	1.2 mL
DLM-3979	19-Nortestosterone (16,16,17-D_3, 98%)	neat	5 mg
ULM-4841-1.2	19-Nortestosterone (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-11841-C	Prednisolone (2,3,4-$^{13}C_3$, 98%) CP 95%	100 µg/mL in methanol	1 mL
DLM-3754	5α-Pregnan-3α-ol-20-one (17,21,21,21-D_4, 96%) CP 95%	neat	10 mg
DLM-7492	5α-Pregnan-3β-ol-20-one (17α,21,21,21-D_4, 97%) CP 96%	neat	Please inquire
ULM-8242	5α-Pregnan-3β-ol-20-one (unlabeled)	neat	1 mg
DLM-10969-C	5α-Pregnan-3α,11β,17,21-tetrol-20-one (2,2,3,4,4-D_5, 98%)	100 µg/mL in methanol	1 mL
DLM-10969	5α-Pregnan-3α,11β,17,21-tetrol-20-one (2,2,3,4,4-D_5, 98%)	neat	1 mg
DLM-11010-C	5α-Pregnan-3α,17,21-triol-11,20-dione (2,2,4,4-D_4, 98%)	100 µg/mL in methanol	1 mL
DLM-11010	5α-Pregnan-3α,17,21-triol-11,20-dione (2,2,4,4-D_4, 98%)	neat	Please inquire
DLM-11009-C	5α-Pregnan-3α,17,21-triol-11,20-dione (2,2,3,4,4-D_5, 98%)	100 µg/mL in methanol	1 mL
DLM-11009	5α-Pregnan-3α,17,21-triol-11,20-dione (2,2,3,4,4-D_5, 98%)	neat	Please inquire
DLM-2294	5β-Pregnan-3α-ol-20-one (17,21,21,21-D_4, 96%)	neat	10 mg
DLM-8751	5β-Pregnan-3α,11β,17α,21-tetrol-20-one (9,11α,12-D_3, 95%)	neat	Please inquire
DLM-11014-C	5β-Pregnan-3α,11β,17α,21-tetrol-20-one (2,2,3,4,4-D_5, 98%)	100 µg/mL in methanol	1 mL
DLM-11014	5β-Pregnan-3α,11β,17α,21-tetrol-20-one (2,2,3,4,4-D_5, 98%)	neat	1 mg
ULM-11015-C	5β-Pregnan-3α,11β,17α,21-tetrol-20-one (unlabeled)	100 µg/mL in methanol	1 mL
ULM-11015	5β-Pregnan-3α,11β,17α,21-tetrol-20-one (unlabeled)	neat	1 mg
DLM-11012-C	5β-Pregnan-3α,11β,21-triol-20-one (2,2,3,4,4-D_5, 98%) CP 95%	100 µg/mL in methanol	1 mL
DLM-11012	5β-Pregnan-3α,11β,21-triol-20-one (2,2,3,4,4-D_5, 98%) CP 95%	neat	1 mg
ULM-11011-C	5β-Pregnan-3α,11β,21-triol-20-one (unlabeled)	100 µg/mL in methanol	1 mL
ULM-11011	5β-Pregnan-3α,11β,21-triol-20-one (unlabeled)	neat	1 mg
DLM-11013-C	5β-Pregnan-3α,17,21-triol-11,20-dione (2,2,3,4,4-D_5, 98%)	100 µg/mL in methanol	1 mL
DLM-11013	5β-Pregnan-3α,17,21-triol-11,20-dione (2,2,3,4,4-D_5, 98%)	neat	1 mg
DLM-8753	5β-Pregnan-3α,17α,20-triol (20,21,21,21-D_4, 98%) mix of 20α and 20β	neat	Please inquire
DLM-10413	5β-Pregnane-3α-20α-diol (2,2,3,4,4-D_5, 98%) CP 95%	neat	1 mg
CLM-10412	5β-Pregnane-3α-20α-diol glucuronide, sodium salt (2,3,4,20,21-$^{13}C_5$, 99%) CP 95%	neat	1 mg
DLM-3910	5α-Pregnane-3α,21-diol-20-one (17,21,21-D_3, 95%)	neat	10 mg
ULM-10385	5α-Pregnane-3α,21-diol-20-one (unlabeled)	neat	1 mg
DLM-3816	5α-Pregnane-3,20-dione (1,2,4,5,6,7-D_6, 95%)	neat	10 mg, 0.05 g
DLM-9901	5β-Pregnane-3,20-dione (2,2,4,4,17α,21,21,21-D_8, 98%) CP 97%	neat	Please inquire
DLM-6896	Pregnenolone (17,21,21,21-D_4, 98%)	neat	10 mg
CDLM-9158-C	Pregnenolone (20,21-$^{13}C_2$, 99%;16,16-D_2, 98%)	100 µg/mL in acetonitrile	1 mL
CDLM-9158	Pregnenolone (20,21-$^{13}C_2$, 98%;16,16-D_2, 98%)	neat	1 mg, 5 mg
ULM-9159-C	Pregnenolone (unlabeled)	100 µg/mL in methanol	1 mL
ULM-9159	Pregnenolone (unlabeled)	neat	1 mg, 5 mg, 10 mg
CDLM-9160	Pregnenolone sulfate, sodium salt (20,21-$^{13}C_2$, 99%; 16,16-D_2, 98%)	neat	1 mg, 5 mg
ULM-9161	Pregnenolone sulfate, sodium salt (unlabeled)	neat	1 mg, 5 mg, 10 mg
CLM-457	Progesterone (3,4-$^{13}C_2$, 90%)	neat	10 mg
CLM-9162-C	Progesterone (2,3,4-$^{13}C_3$, 99%)	100 µg/mL in acetonitrile	1 mL
CLM-9162-B	Progesterone (2,3,4-$^{13}C_3$, 99%)	50 µg/mL in acetonitrile	1 mL

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
For research use only. Not for use in diagnostic procedures.

Steroids and Hormones *(continued)*

Catalog No.	Description	Concentration	Unit Size
CLM-9162	Progesterone (2,3,4-$^{13}C_3$, 99%)	neat	1 mg, 5 mg
CLM-10414	Progesterone (2,3,4,20,21-$^{13}C_5$, 99%)	neat	1 mg
DLM-7953-1.2	Progesterone (2,2,4,6,6,17α,21,21,21-D_9, 98%)	100 µg/mL in *p*-dioxane	1.2 mL
DLM-7953	Progesterone (2,2,4,6,6,17α,21,21,21-D_9, 98%)	neat	10 mg
ULM-8219-1.2	Progesterone (unlabeled)	100 µg/mL in *p*-dioxane	1.2 mL
DLM-3627	Prostaglandin A2 (3,3,4,4-D_4, 98%)	500 µg/mL in methyl acetate	Please inquire
DLM-3728	Prostaglandin E1 (3,3,4,4-D_4, 98%)	500 µg/mL in methyl acetate	Please inquire
DLM-3628	Prostaglandin E2 (3,3,4,4-D_4, 98%)	500 µg/mL in methyl acetate	Please inquire
DLM-3558	Prostaglandin-F2α (3,3,4,4-D_4, 98%)	Please inquire	Please inquire
DLM-7457	Sodium 17β-estradiol 3-sulfate (2,4,16,16-D_4, 98%) stabilized with 50% w/w Tris	neat	Please inquire
DLM-7456	Sodium estrone 3-sulfate (2,4,16,16-D_4, 98%) stabilized with 50% w/w Tris	neat	Please inquire
ULM-8132	Sodium estrone 3-sulfate (unlabeled)	neat	0.1 mg
DLM-9503	Stigmastanol (2,2,3,4,4-D_5, 98%)	neat	10 mg
CLM-159	Testosterone (3,4-$^{13}C_2$, 99%)	neat	10 mg
CLM-9164-C	Testosterone (2,3,4-$^{13}C_3$, 99%)	100 µg/mL in methanol	1 mL
CLM-9164	Testosterone (2,3,4-$^{13}C_3$, 99%)	neat	5 mg, 10 mg
DLM-683-1.2	Testosterone (1,2-D_2, 98%)	100 µg/mL in MeCl	1.2 mL
DLM-683	Testosterone (1,2-D_2, 98%)	neat	0.1 g
DLM-6224-C	Testosterone (16,16,17-D_3, 98%)	100 µg/mL in methanol	1 mL
DLM-6224	Testosterone (16,16,17-D_3, 98%)	neat	5 mg
DLM-8085-D-1.2	Testosterone (2,2,4,6,6-D_5, 98%)	100 µg/mL in dioxane	1.2 mL
DLM-8085-1.2	Testosterone (2,2,4,6,6-D_5, 98%)	100 µg/mL in MeCl	1.2 mL
DLM-8085	Testosterone (2,2,4,6,6-D_5, 98%)	neat	Please inquire
CDLM-11711-C	Testosterone (2,3,4-$^{13}C_3$, 98%; 16,16,17-D_3, 98%) CP 95%	100 µg/mL in ethanol	1 mL
ULM-8081-1.2	Testosterone (unlabeled)	100 µg/mL in MeCl	1.2 mL
DLM-8265	Testosterone diacetate (testosterone-D_4, acetate methyl-D_6, 98%)	neat	Please inquire
DLM-11016-C	3α,5β-Tetrahydroaldosterone (2,2,4,4,6,6-D_6, 98%) CP 95%	100 µg/mL in acetonitrile	1 mL
DLM-11016	3α,5β-Tetrahydroaldosterone (2,2,4,4,6,6-D_6, 98%) CP 95%	neat	Please inquire
ULM-9163	3α,5β-Tetrahydroaldosterone (unlabeled)	neat	1 mg, 5 mg
CLM-6725	L-Thyroxine (T4) (tyrosine-ring-$^{13}C_6$, 99%) CP 90%	neat	0.1 mg
CLM-8931	L-Thyroxine (T4) (ring-$^{13}C_{12}$, 99%) CP 97%	neat	0.1 mg
ULM-8184	L-Thyroxine (T4) (unlabeled)	neat	0.2 mg
CLM-10596	3,3′,5-Triiodo-L-thyronine (T3) (rings-$^{13}C_{12}$, 99%) CP 94%	neat	Please inquire
CLM-7185-C	3,3′,5-Triiodo-L-thyronine (T3)·HCl (diiodobenzene-$^{13}C_6$, 99%)	100 µg/mL 0.1 N NH_3 in methanol	1 mL
CLM-7185	3,3′,5-Triiodo-L-thyronine (T3)·HCl (diiodobenzene-$^{13}C_6$, 99%) CP 95%	neat	1 mg, 5 mg, 10 mg
ULM-10573-C	3,3′,5-Triiodo-L-thyronine (T3)·HCl (unlabeled) CP 95%	100 µg/mL 0.1 N NH_3 in methanol	1 mL
ULM-10573	3,3′,5-Triiodo-L-thyronine (T3)·HCl (unlabeled) CP 95%	neat	1 mg, 5 mg, 10 mg
CLM-10601-C	Reverse 3,3′,5′-triiodo-L-thyronine (rev T3)·HCl (diiodobenzene-$^{13}C_6$, 99%) CP 95%	100 µg/mL 0.1 N NH_3 in methanol	1 mL
CLM-10601	Reverse 3,3′,5′-triiodo-L-thyronine (rev T3)·HCl (diiodobenzene-$^{13}C_6$, 99%) CP 95%	neat	1 mg, 5 mg, 10 mg
ULM-10602-C	Reverse 3,3′,5-triiodo-L-thyronine (rev T3)·HCl (unlabeled) CP 95%	100 µg/mL 0.1 N NH_3 in methanol	1 mL
DLM-10026	Triamcinolone hexacetonide (16,17-isopropylidenedioxy-D_6, 98%)	neat	Please inquire
DLM-6989	Tryptamine·HCl (α,α,β,β-D_4, 97%)	neat	Please inquire
DLM-10026	Triamcinolone hexacetonide (16,17-isopropylidenedioxy-D_6, 98%)	neat	Please inquire
DLM-6989	Tryptamine·HCl (α,α,β,β-D_4, 97%)	neat	Please inquire
DLM-6989	Tryptamine·HCl (α,α,β,β-D_4, 97%)	neat	Please inquire

For a complete product listing, please visit **isotope.com**.

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Vitamins and Their Metabolites

Vitamins are organic compounds that directly or indirectly participate in organisms' biochemical reactions. These are divided into two classes, based on their solubility in fat (includes A, D, E, and K) and water (includes B and C).

CIL offers unlabeled and stable isotope-labeled vitamins as neat compounds and/or in solution at specified concentrations. These can be used in a wide range of applications, such as metabolism and pathophysiology explorations, as well as disease biomarker evaluation in preclinical and clinical MS studies (e.g., vitamin D deficiency). These standards help facilitate accurate and precise quantification of endogenous metabolites in biological matrices.

Water Soluble

Catalog No.	Description	Concentration	Unit Size
CLM-11661	5-Formyltetrahydrofolic acid (glutamic acid-$^{13}C_5$, 98%)	neat	1 mg
CLM-9548	5-Methyltetrahydrofolic acid (prefolic A) (glutamic acid-$^{13}C_5$, 99%) CP 95%	neat	1 mg, 5 mg
DLM-11656	5-Methyltetrahydrofolic acid (prefolic A) (methyl-D_3, 98%)	neat	1 mg
CLM-7321-N	5-Methyltetrahydrofolic acid (prefolic A), calcium salt (glutamic acid-$^{13}C_5$, 98%) CP 95%	neat	1 mg, 5 mg
CLM-7667	Vitamin B_1 (thiamine)·HCl (4,5,4-methyl-$^{13}C_3$, 99%) CP 97%	neat	5 mg
ULM-10004	Vitamin B_1 (thiamine)·HCl (unlabeled)	neat	1 mg, 5 mg, 10 mg
DLM-8741	Vitamin B_1 (thiamine) pyrophosphate chloride (pyrimidyl-methyl-D_3, 98%)	neat	1 mg
CNLM-8851	Vitamin B_2 (riboflavin) ($^{13}C_4$, 99%; $^{15}N_2$, 98%) CP 97%	neat	1 mg, 5 mg, 10 mg
ULM-9123	Vitamin B_2 (riboflavin) (unlabeled) CP 97%	neat	1 mg, 5 mg, 10 mg
CNLM-10744	Vitamin B_2 (riboflavin) phosphate ($^{13}C_4$, 99%; $^{15}N_2$, 98%) CP 90%	neat	1 mg
CLM-9925	Vitamin B_3 (nicotinamide) ($^{13}C_6$, 99%)	neat	1 mg, 5 mg
DLM-6883	Vitamin B_3 (nicotinamide) (D_4, 98%)	neat	0.1 g, 0.5 g
CNLM-9757	Vitamin B_3 (nicotinamide) (2,6-carbonyl-$^{13}C_3$, 99%; ring-1-^{15}N, 98%)	neat	1 mg
CLM-9954	Vitamin B_3 (nicotinic acid) ($^{13}C_6$, 99%)	neat	1 mg, 5 mg
DLM-4578	Vitamin B_3 (nicotinic acid) (D_4, 98%)	neat	5 mg, 1 g
CNLM-9512	Vitamin B_3 (nicotinic acid) (2,6,carboxyl-$^{13}C_3$, 99%; ^{15}N, 98%) CP 97%	neat	1 mg
DLM-2872	Vitamin B_3 (nicotinic acid), ethyl ester (2,4,5,6-D_4, 98%)	neat	5 g
CNLM-7694	Vitamin B_5 (pantothenate)·H_2O, calcium salt (β-alanyl-$^{13}C_3$, 99%; ^{15}N, 98%)	neat	10 mg
ULM-10003	Vitamin B_5 (pantothenate)·H_2O, calcium salt (unlabeled)	neat	1 mg, 5 mg, 10 mg
DLM-9069	Vitamin B_6 (pyridoxal) (methyl-D_3, 98%)	neat	1 mg, 5 mg, 10 mg
ULM-9118	Vitamin B_6 (pyridoxal)·HCl (unlabeled)	neat	1 mg, 5 mg, 10 mg
DLM-9119	Vitamin B_6 (pyridoxamine)·2HCl (methyl-D_3, 98%)	neat	1 mg, 5 mg, 10 mg
ULM-9120	Vitamin B_6 (pyridoxamine)·2HCl (unlabeled)	neat	1 mg, 5 mg, 10 mg
CLM-7563	Vitamin B_6 (pyridoxine)·HCl (4,5-bis(hydroxymethyl)-$^{13}C_4$, 99%)	neat	10 mg
DLM-8754	Vitamin B_6 (pyridoxine)·HCl (5-hydroxymethyl-D_2, 98%)	neat	1 mg, 5 mg
DLM-9121	Vitamin B_6 (pyridoxine)·HCl (methyl-D_3, 98%) CP 96%	neat	1 mg, 5 mg, 10 mg
ULM-9122	Vitamin B_6 (pyridoxine)·HCl (unlabeled) CP 96%	neat	1 mg, 5 mg, 10 mg
DLM-9793-N	Vitamin B_6 (pyridoxal) phosphate (methyl-D_3, 97%) CP 97% (mix of 5-,3-isomers)	neat	1 mg
DLM-11662	Vitamin B_6 phosphate (pyridoxal phosphate) (methyl-D_3, 5-hydoxymethyl-D_2, 98%)	neat	1 mg
DLM-8806	Vitamin B_7 (biotin) (ring-6,6-D_2, 98%) CP 97%	neat	5 mg, 10 mg, 20 mg
DLM-9751	Vitamin B_7 (biotin) (3',3',4',4'-D_4, 98%) CP 95%	neat	1 mg
ULM-9129	Vitamin B_7 (biotin) (unlabeled)	neat	1 mg, 5 mg
CLM-7861-N	Vitamin B_9 (folic acid) (glutamic acid-$^{13}C_5$, 99%) CP 95%	neat	1 mg, 5 mg
CLM-7861	Vitamin B_9 (folic acid) (glutamic acid-$^{13}C_5$, 95%) contains ~10% H_2O	neat	Please inquire
CNLM-9564	Vitamin B_9 (folic acid) (glutamic acid-$^{13}C_5$, 99%; ^{15}N, 98%) CP 95%	neat	1 mg, 5 mg
CLM-9770-E	Vitamin B_{12} (cyanocobalamin) ($^{13}C_7$, 99%) CP 95%	1 µg/mL in methanol	1 mL
ULM-10005-E	Vitamin B_{12} (cyanocobalamin) (unlabeled)	1 µg/mL in methanol	1 mL

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Vitamins and Their Metabolites *(continued)*

Catalog No.	Description	Concentration	Unit Size
CLM-3085	Vitamin C (L-ascorbic acid) (1-^{13}C, 99%)	neat	0.05 g, 0.1 g, 0.25 g, 0.5 g
CLM-10991	Vitamin C (L-ascorbic acid) (1,2-$^{13}C_2$, 99%)	neat	Please inquire
CLM-7283	Vitamin C (L-ascorbic acid) (U-$^{13}C_6$, 98%)	neat	0.05 g, 0.1 g

Fat Soluble

Catalog No.	Description	Concentration	Unit Size
CLM-6126	β-Carotene (provitamin A) (10,10′,11,11′-$^{13}C_4$, 99%) CP 95%	neat	Please inquire
CLM-9641	β-Carotene (provitamin A) (12,12′,13,13′,14,14′,15,15′,20,20′-$^{13}C_{10}$, 99%) CP 97%	neat	Please inquire
DLM-3829	β-Carotene (provitamin A) (19,19,19,19′,19′,19′-D_6, 98%) CP 95%	neat	Please inquire
DLM-2439	β-Carotene (provitamin A) (10,10′,19,19,19,19′,19′,19′-D_8, 97%)	neat	Please inquire
ULM-11664	1,24-Dihydroxyvitamin D_3 (tacalcitol) (unlabeled)	neat	1 mg
CLM-12291-A	1,25-Dihydroxyvitamin D_2 (25,26,27-$^{13}C_3$, 98%) CP 95%	5 µg/mL in ethanol	1 mL
CLM-11417	1,25-Dihydroxyvitamin D_2 (20,21,22,26,27-$^{13}C_5$, 98%) CP 95%	neat	Please inquire
ULM-9106-C	1,25-Dihydroxyvitamin D_2 (unlabeled) CP 95%	100 µg/mL in ethanol	1 mL
ULM-9106-B	1,25-Dihydroxyvitamin D_2 (unlabeled) CP 95%	50 µg/mL in ethanol	1 mL
ULM-9106	1,25-Dihydroxyvitamin D_2 (unlabeled) CP 95%	neat	0.1 mg, 1 mg
CLM-12292-A	1,25-Dihydroxyvitamin D_3 (25,26,27-$^{13}C_3$, 98%) CP 95%	5 µg/mL in ethanol	1 mL
DLM-9107-C	1,25-Dihydroxyvitamin D_3 (6,19,19-D_3, 97%) CP 95%	100 µg/mL in ethanol	1 mL
DLM-9107-B	1,25-Dihydroxyvitamin D_3 (6,19,19-D_3, 97%) CP 95%	50 µg/mL in ethanol	1 mL
DLM-9107	1,25-Dihydroxyvitamin D_3 (6,19,19-D_3, 97%) CP 95%	neat	1 mg
ULM-9108-C	1,25-Dihydroxyvitamin D_3 (unlabeled) CP 95%	100 µg/mL in ethanol	1 mL
ULM-9108-B	1,25-Dihydroxyvitamin D_3 (unlabeled) CP 95%	50 µg/mL in ethanol	1 mL
ULM-9108	1,25-Dihydroxyvitamin D_3 (unlabeled) CP 95%	neat	0.5 mg, 1 mg
ULM-9109-C	24,25-Dihydroxyvitamin D_2 (unlabeled)	100 µg/mL in ethanol	1 mL
ULM-9109	24,25-Dihydroxyvitamin D_2 (unlabeled)	neat	1 mg
CLM-11663	24*R*,25-Dihydroxyvitamin D_3 (25,26,27-$^{13}C_3$, 98%)	50 µg/mL in ethanol	1 mL
CLM-11420	24*R*,25-Dihydroxyvitamin D_3 (23,24,25,26,27-$^{13}C_5$, 98%) CP 95%	neat	Please inquire
DLM-9404-C	24*R*,25-Dihydroxyvitamin D_3 (26,26,26,27,27,27-D_6, 98%) CP 97%	100 µg/mL in ethanol	1 mL
DLM-9404	24*R*,25-Dihydroxyvitamin D_3 (26,26,26,27,27,27-D_6, 98%) CP 97%	neat	1 mg
ULM-10610-C	24*R*,25-Dihydroxyvitamin D_3 (unlabeled) CP 97%	100 µg/mL in ethanol	1 mL
ULM-10610	24*R*,25-Dihydroxyvitamin D_3 (unlabeled) CP 97%	neat	1 mg
CLM-11418	3-*epi*-25-Hydroxyvitamin D_2 (22,26,27-$^{13}C_3$, 98%) CP 95%	50 µg/mL in ethanol	1 mL
CLM-11418	3-*epi*-25-Hydroxyvitamin D_2 (22,26,27-$^{13}C_3$, 98%) CP 95%	10 µg/mL in ethanol	1 mL
CLM-11419	3-*epi*-25-Hydroxyvitamin D_2 (20,21,22,26,27-$^{13}C_5$, 98%) CP 95%	50 µg/mL in ethanol	1 mL
CLM-11419	3-*epi*-25-Hydroxyvitamin D_2 (20,21,22,26,27-$^{13}C_5$, 98%) CP 95%	10 µg/mL in ethanol	1 mL
ULM-9110-C	3-*epi*-25-Hydroxyvitamin D_2 (unlabeled)	100 µg/mL in ethanol	1 mL
ULM-9110-B	3-*epi*-25-Hydroxyvitamin D_2 (unlabeled)	50 µg/mL in ethanol	1 mL
ULM-9110	3-*epi*-25-Hydroxyvitamin D_2 (unlabeled)	neat	1 mg
CLM-11421	25-Hydroxyvitamin D_2 (22,26,27-$^{13}C_3$, 98%) CP 95%	neat	Please inquire
CLM-11422	25-Hydroxyvitamin D_2 (20,21,22,26,27-$^{13}C_5$, 98%) CP 95%	neat	Please inquire
DLM-9114-C	25-Hydroxyvitamin D_2 (6,19,19-D_3, 97%)	100 µg/mL in ethanol	1 mL
DLM-9114-B	25-Hydroxyvitamin D_2 (6,19,19-D_3, 97%)	50 µg/mL in ethanol	1 mL
DLM-9114-A	25-Hydroxyvitamin D_2 (6,19,19-D_3, 97%)	5 µg/mL in ethanol	1 mL
DLM-9114	25-Hydroxyvitamin D_2 (6,19,19-D_3, 97%)	neat	1 mg
DLM-10219	25-Hydroxyvitamin D_2 (26,26,26,27,27,27-D_6, 96%) CP 95%	neat	Please inquire
ULM-9115-C	25-Hydroxyvitamin D_2 (unlabeled)	100 µg/mL in ethanol	1 mL
ULM-9115-B	25-Hydroxyvitamin D_2 (unlabeled)	50 µg/mL in ethanol	1 mL
ULM-9115-A	25-Hydroxyvitamin D_2 (unlabeled)	5 µg/mL in ethanol	1 mL
ULM-9115	25-Hydroxyvitamin D_2 (unlabeled)	neat	1 mg

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Catalog No.	Description	Concentration	Unit Size
DLM-10611-C	25-Hydroxyvitamin D_2 sulfate, sodium salt (6,19,19-D_3, 97%) CP 97%	100 µg/mL in ethanol	1 mL
ULM-10612-C	25-Hydroxyvitamin D_2 sulfate, sodium salt (unlabeled) CP 97%	100 µg/mL in ethanol	1 mL
CLM-10266-C	3-*epi*-25-Hydroxyvitamin D_3 (23,24,25,26,27-$^{13}C_5$, 99%) CP 96%	100 µg/mL in ethanol	1 mL
DLM-9111-C	3-*epi*-25-Hydroxyvitamin D_3 (6,19,19-D_3, 98%)	100 µg/mL in ethanol	1 mL
DLM-9111-B	3-*epi*-25-Hydroxyvitamin D_3 (6,19,19-D_3, 98%)	50 µg/mL in ethanol	1 mL
DLM-9111	3-*epi*-25-Hydroxyvitamin D_3 (6,19,19-D_3, 98%)	neat	1 mg
DLM-10912	3-*epi*-25-Hydroxyvitamin D_3 (26,26,26,27,27,27-D_6, 96%) CP 95%	neat	Please inquire
ULM-9112-C	3-*epi*-25-Hydroxyvitamin D_3 (unlabeled)	100 µg/mL in ethanol	1 mL
ULM-9112-B	3-*epi*-25-Hydroxyvitamin D_3 (unlabeled)	50 µg/mL in ethanol	1 mL
ULM-9112	3-*epi*-25-Hydroxyvitamin D_3 (unlabeled)	neat	1 mg
CLM-10025-C	25-Hydroxyvitamin D_3 (23,24,25,26,27-$^{13}C_5$, 99%) CP 95%	100 µg/mL in ethanol	1 mL
CLM-10025	25-Hydroxyvitamin D_3 (23,24,25,26,27-$^{13}C_5$, 99%) CP 95%	neat	1 mg
DLM-9116-C	25-Hydroxyvitamin D_3 (6,19,19-D_3, 97%)	100 µg/mL in ethanol	1 mL
DLM-9116-B	25-Hydroxyvitamin D_3 (6,19,19-D_3, 97%)	50 µg/mL in ethanol	1 mL
DLM-9116-A	25-Hydroxyvitamin D_3 (6,19,19-D_3, 97%)	5 µg/mL in ethanol	1 mL
DLM-9116	25-Hydroxyvitamin D_3 (6,19,19-D_3, 97%)	neat	1 mg, 5 mg
DLM-11423	25-Hydroxyvitamin D_3 (26,26,26,27,27,27-D_6, 98%) CP 95%	neat	Please inquire
ULM-9117-C	25-Hydroxyvitamin D_3 (unlabeled)	100 µg/mL in ethanol	1 mL
ULM-9117-B	25-Hydroxyvitamin D_3 (unlabeled)	50 µg/mL in ethanol	1 mL
ULM-9117-A	25-Hydroxyvitamin D_3 (unlabeled)	5 µg/mL in ethanol	1 mL
ULM-9117	25-Hydroxyvitamin D_3 (unlabeled)	neat	5 mg
DLM-7708-C	25-Hydroxyvitamin D_3·H_2O (26,26,26,27,27,27-D_6, 98%) CP 97%	100 µg/mL in ethanol	1 mL
DLM-7708-B	25-Hydroxyvitamin D_3·H_2O (26,26,26,27,27,27-D_6, 98%) CP 97%	50 µg/mL in ethanol	1 mL
DLM-7708	25-Hydroxyvitamin D_3·H_2O (26,26,26,27,27,27-D_6, 98%) CP 97%	neat	1 mg
DLM-10782-C	25-Hydroxyvitamin D_3 sulfate, sodium salt (6,19,19-D_3, 97%) CP 97%	100 µg/mL in ethanol	Please inquire
ULM-10781-C	25-Hydroxyvitamin D_3 sulfate, sodium salt (unlabeled) CP 97%	100 µg/mL in ethanol	Please inquire
CLM-331	Vitamin A (retinoic acid) (10-^{13}C, 99%)	neat	Please inquire
CLM-328	Vitamin A (retinoic acid) (11-^{13}C, 98%)	neat	Please inquire
CLM-329	Vitamin A (retinoic acid) (14-^{13}C, 99%)	neat	Please inquire
CLM-330	Vitamin A (retinoic acid) (15-^{13}C, 99%)	neat	Please inquire
CLM-4343	Vitamin A (retinoic acid) (10,11,14,15-$^{13}C_4$, 99%)	neat	Please inquire
DLM-7720	Vitamin A (retinoic acid) (19,19,19,20,20,20-D_6, 96%)	neat	1 mg
CLM-10259	Vitamin A (retinol) (12,13,14,20-$^{13}C_4$, 99%) CP 95% (50 ppm BHT)	neat	Please inquire
DLM-9305	Vitamin A (retinol) (10,19,19,19-D_4, 96%) CP 95% (50 ppm BHT)	neat	1 mg, 5 mg
DLM-8113	Vitamin A (retinol) (19,19,19,20,20,20-D_6, 96%) CP 95% (50 ppm BHT)	neat	1 mg, 5 mg, 10 mg
DLM-9306	Vitamin A (retinol) (10,14,19,19,19,20,20,20-D_8, 90%) CP 95% (50 ppm BHT)	neat	Please inquire
CLM-8870	Vitamin A (retinol) acetate (12,13,14,20-$^{13}C_4$, 99%)	neat	Please inquire
CLM-4831	Vitamin A (retinol) acetate (8,9,10,12,13,14,19,20-$^{13}C_8$, 99%)	neat	Please inquire
CLM-7277	Vitamin A (retinol) acetate (8,9,10,11,12,13,14,15,19,20-$^{13}C_{10}$, 99%)	neat	Please inquire
DLM-2244	Vitamin A (retinol) acetate (10,19,19,19-D_4, 96%) 3-4% *cis*	neat	Please inquire
DLM-3828	Vitamin A (retinol) acetate (19,19,19,20,20,20-D_6, 96%) 3-4% *cis*	neat	Please inquire
DLM-4203	Vitamin A (retinol) acetate (10,14,19,19,19,20,20,20-D_8, 90%) 3-4% *cis*	neat	Please inquire
CLM-320	Vitamin A (retinal) aldehyde (10-^{13}C, 99%)	neat	Please inquire
CLM-325	Vitamin A (retinal) aldehyde (11-^{13}C, 99%)	neat	Please inquire
CLM-326	Vitamin A (retinal) aldehyde (14-^{13}C, 99%)	neat	Please inquire
CLM-327	Vitamin A (retinal) aldehyde (15-^{13}C, 98%)	neat	Please inquire
CLM-10772	Vitamin A (retinal) aldehyde (12,13,14,20-$^{13}C_4$, 96%)	neat	Please inquire
DLM-7719	Vitamin A (retinal) aldehyde (19,19,19,20,20,20-D_6, 96%)	neat	Please inquire

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
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Vitamins and Their Metabolites *(continued)*

Catalog No.	Description	Concentration	Unit Size
CLM-9395	Vitamin A (retinal) palmitate (12,13,20-$^{13}C_3$, 98%) all *trans*, <4% *cis* (50 ppm BHT)	neat	Please inquire
CLM-10838	Vitamin A (retinal) palmitate (8,9,10,11,12,13,14,15,19,20-$^{13}C_{10}$, 99%) all *trans*, <4% *cis* (50 ppm BHT)	neat	Please inquire
DLM-4902	Vitamin A (retinal) palmitate (10,19,19,19-D_4, 96%) all *trans*, <4% *cis* (50 ppm BHT)	neat	1 mg, 5 mg
DLM-9309	Vitamin A (retinal) palmitate (19,19,19,20,20,20-D_6, 97%) all *trans*, <4% *cis* (50 ppm BHT)	neat	Please inquire
DLM-8985-D	Vitamin D_2 (ergocalciferol) (6,19,19-D_3, 97%)	1000 µg/mL in ethanol	1 mL
DLM-8985-C	Vitamin D_2 (ergocalciferol) (6,19,19-D_3, 97%)	100 µg/mL in ethanol	1 mL
DLM-8985	Vitamin D_2 (ergocalciferol) (6,19,19-D_3, 97%)	neat	1 mg
DLM-11830	Vitamin D_2 (ergocalciferol) (26,26,26,27,27,27-D_6, 98%) CP 95%	neat	1 mg
ULM-9124-D	Vitamin D_2 (ergocalciferol) (unlabeled)	1000 µg/mL in ethanol	1 mL
ULM-9124-C	Vitamin D_2 (ergocalciferol) (unlabeled)	100 µg/mL in ethanol	1 mL
ULM-9124	Vitamin D_2 (ergocalciferol) (unlabeled)	neat	1 mg, 5 mg, 10 mg
DLM-10478-C	Vitamin D_2 (ergocalciferol) sulfate, sodium salt (6,19,19-D_3, 98%) CP 97%	100 µg/mL in ethanol	1 mL
ULM-10477-C	Vitamin D_2 (ergocalciferol) sulfate, sodium salt (unlabeled) CP 97%	100 µg/mL in ethanol	1 mL
CLM-7850	Vitamin D_3 (cholecalciferol) (23,24-$^{13}C_2$, 99%) CP 90%	neat	Please inquire
CLM-10469-C	Vitamin D_3 (cholecalciferol) (25,26,26-$^{13}C_3$, 98%) CP 97%	100 µg/mL in ethanol	1 mL
CLM-10470-D	Vitamin D_3 (cholecalciferol) (23,24,25,26,26-$^{13}C_5$, 98%) CP 97%	1000 µg/mL in ethanol	1 mL
CLM-10470-C	Vitamin D_3 (cholecalciferol) (23,24,25,26,26-$^{13}C_5$, 98%) CP 97%	100 µg/mL in ethanol	1 mL
DLM-8853-D	Vitamin D_3 (cholecalciferol) (6,19,19-D_3, 97%) CP 97%	1000 µg/mL in ethanol	1 mL
DLM-8853-C	Vitamin D_3 (cholecalciferol) (6,19,19-D_3, 97%) CP 97%	100 µg/mL in ethanol	1 mL
DLM-10749-D	Vitamin D_3 (cholecalciferol) (26,26,26,27,27,27-D_6, 98%) CP 95%	1 mg/mL in ethanol	1 mL
DLM-10749-C	Vitamin D_3 (cholecalciferol) (26,26,26,27,27,27-D_6, 98%) CP 95%	100 µg/mL in ethanol	1 mL
ULM-9125-D	Vitamin D_3 (cholecalciferol) (unlabeled)	1000 µg/mL in ethanol	1 mL
ULM-9125-C	Vitamin D_3 (cholecalciferol) (unlabeled)	100 µg/mL in ethanol	1 mL
ULM-9125	Vitamin D_3 (cholecalciferol) (unlabeled)	neat	1 mg, 5 mg, 10 mg
DLM-10475-C	Vitamin D_3 (cholecalciferol) sulfate, sodium salt (6,19,19-D_3, 98%) CP 97%	100 µg/mL in ethanol	1 mL
ULM-10474-C	Vitamin D_3 (cholecalciferol) sulfate, sodium salt (unlabeled) CP 97%	100 µg/mL in ethanol	1 mL
CLM-10274	Vitamin E (DL-α-tocopherol) (trimethylphenyl-$^{13}C_3$, 99%) CP 96%	neat	1 mg
CLM-10273	Vitamin E (α-tocopherol) (trimethylphenyl-$^{13}C_3$, 99%) CP 96%	neat	1 mg
CLM-10275	Vitamin E (α-tocopherol) (phenyl-$^{13}C_6$, 99%) CP 96%	neat	1 mg
CLM-10276	Vitamin E (α-tocopherol) (trimethylphenyl-$^{13}C_9$, 99%) CP 96%	neat	1 mg
DLM-9126	Vitamin E (α-tocopherol) (5-methyl-D_3, 7-methyl-D_3, 98%)	neat	2 mg, 5 mg, 10 mg
CDLM-11053-1.2	Vitamin E (α-tocopherol) (dimethyl-$^{13}C_2$, 99%; dimethyl-D_6, 98%)	100 µg/mL in methanol	1.2 mL
ULM-9127-1.2	Vitamin E (α-tocopherol) (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-9127	Vitamin E (α-tocopherol) (unlabeled) CP 96%	neat	1 mg, 5 mg, 10 mg
DLM-8847	Vitamin E (α-tocopherol) acetate (acetyl-D_3, 98%)	neat	Please inquire
DLM-11564	Vitamin E (α-tocopherol) acetate (phenyl-5,7-dimethyl-D_6, 98%)	neat	1 mg
CDLM-11054-1.2	Vitamin E (α-tocopherol) acetate (dimethyl-$^{13}C_2$, acetyl-$^{13}C_2$, 99%; dimethyl-D_6, 98%)	100 µg/mL in methanol	1.2 mL
ULM-11055-1.2	Vitamin E (α-tocopherol) acetate (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-11047	Vitamin E (α-tocopherol) succinate (5-methyl-D_3, 7-methyl-D_3, 98%) CP 95%	neat	1 mg, 2 mg, 10 mg
CLM-9566	Vitamin K_1 (phylloquinone) (4α,5,6,7,8,8α-$^{13}C_6$, 99%)	neat	1 mg
DLM-7702	Vitamin K_1 (phylloquinone) (ring-D_4, 98%)	neat	1 mg
DLM-9130	Vitamin K_1 (phylloquinone) (D_7, 99%) CP 97%	neat	1 mg, 5 mg, 10 mg
ULM-9131	Vitamin K_1 (phylloquinone) (unlabeled) CP 97%	neat	1 mg, 5 mg, 10 mg
CLM-10376	Vitamin K_2 (menaquinone MK-4) (4',5,6,7,8,8'-$^{13}C_6$, 99%) CP 95%	neat	1 mg
DLM-10379	Vitamin K_2 (menaquinone MK-4) (5,6,7,8-D_4, 2-methyl-D_3, 98%) CP 95%	neat	1 mg
DLM-10382	Vitamin K_2 (menaquinone MK-4) 2,3-epoxide (5,6,7,8-D_4, 2-methyl-D_3, 98%) CP 95%	neat	1 mg
ULM-10383	Vitamin K_2 (menaquinone MK-4) 2,3-epoxide (unlabeled) CP 95%	neat	1 mg

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Catalog No.	Description	Concentration	Unit Size
CLM-10377	Vitamin K_2 (menaquinone MK-7) (4',5,6,7,8,8'-$^{13}C_6$, 99%) CP 95%	neat	1 mg
DLM-10380	Vitamin K_2 (menaquinone MK-7) (5,6,7,8-D_4, 2-methyl-D_3, 98%) CP 95%	neat	1 mg
CLM-10378	Vitamin K_2 (menaquinone MK-9) (4',5,6,7,8,8'-$^{13}C_6$, 99%) CP 95%	neat	1 mg
DLM-10381	Vitamin K_2 (menaquinone MK-9) (5,6,7,8-D_4, 2-methyl-D_3, 98%) CP 95%	neat	1 mg
DLM-9132	Vitamin K_3 (menadione) (D_8, 98%) CP 97%	neat	10 mg, 50 mg
ULM-9133	Vitamin K_3 (menadione) (unlabeled) CP 97%	neat	5 mg, 10 mg

For a complete product listing, please visit **isotope.com**.

Urea

To complement the growing area of urea-based research in the preclinical and clinical fields (e.g., as biomarker of respiratory and renal diseases), CIL offers a variety of stable isotope-labeled urea compounds. These are available in various labeling patterns and in different material grades (i.e., research, MPT, cGMP). In one example application, a ^{13}C urea breath test can be used to accurately and noninvasively diagnose *H. pylori* infections, such as peptic ulcer disease and gastric cancer. This test involves the oral ingestion of cGMP-grade ^{13}C urea, with measurement of the $^{13}CO_2$ to $^{12}CO_2$ area ratios in the expired breath facilitating diagnosis.

Catalog No.	Description	Unit Size
CLM-311	Urea (^{13}C, 99%)	1 g
DLM-1269	Urea (D_4, 98%)	25 g
NLM-233	Urea ($^{15}N_2$, 98%)	1 g, 5 g
NLM-233-10	Urea ($^{15}N_2$, 10%)	25 g
NLM-233-5	Urea ($^{15}N_2$, 5%)	Please inquire
OLM-655	Urea (^{18}O, 95%)	Please inquire
CNLM-234	Urea (^{13}C, 99%; $^{15}N_2$, 98%)	0.5 g
COLM-4861	Urea (^{13}C, 99%; ^{18}O, 98%)	0.5 g
CNOLM-8871	Urea (^{13}C, 99%; $^{15}N_2$, 99%; ^{18}O, 99%)	Please inquire

Water

CIL offers a variety of singly and doubly labeled water compounds for use in MS- and NMR-based studies. These could be applied, for example, in energy-expenditure research or in virtual biopsy methods, as described in this article by **Marc Hellerstein**.

Catalog No.	Description	Unit Size
DLM-4	Deuterium oxide (D, 99.9%)	10 g, 25 g, 50 g, 100 g, 1000 g
DLM-4-99.8	Deuterium oxide (D, 99.8%)	1000 g
DLM-2259	Deuterium oxide (D, 99.8%) microbiologically tested	100 mL, 250 mL, 1 L
DLM-4-99	Deuterium oxide (D, 99%)	1000 g, 5000 g
DLM-4-70	Deuterium oxide (D, 70%)	1000 g
DLM-2259-70	Deuterium oxide (D, 70%) microbiologically tested	Please inquire
OLM-782-90	Water (^{17}O, 90%)	1 g
OLM-782-70	Water (^{17}O, 70%)	Please inquire
OLM-782-40	Water (^{17}O, 35%)	1 g
OLM-782-20	Water (^{17}O, 20%)	1 g
OLM-782-10	Water (^{17}O, 10%)	1 g
OLM-240-97	Water (^{18}O, 97%)	1 g
OLM-240-10	Water (^{18}O, 10%)	1 g, 5 g, 10 g

Chemical purity (CP) is 98% or greater, unless otherwise specified.
cGMP (current good manufacturing practice) and MPT (microbiological and pyrogen tested) may be available; please inquire.
For research use only. Not for use in diagnostic procedures.

Research Use of Products

CIL manufactures highly pure research biochemicals that are produced for research applications. As a service to our customers, some of these materials have been tested for the presence of *S. aureus, P. aeruginosa, E. coli, Salmonella sp.,* aerobic bacteria, yeast, and mold, as well as the presence of endotoxin in the bulk material by taking a random sample of the bulk product. Subsequent aliquots are not retested. Presence of endotoxin is assessed by determining endotoxin content following established protocols and standardized limulus amebocyte lysate (LAL) reagents. Any materials listed in our catalog or website that are designated as "MPT" in the item product number (e.g., DLM-349-MPT) contain these tests as part of release specifications.

If a product does not have an "MPT" designation, CIL may be able to provide microbiological testing on the product. Depending on the compound and the quantity ordered, an additional fee may apply for the testing. Please note that microbiological-tested products are not guaranteed to be sterile and pyrogen-free when received by the customer, and microbiological testing does not imply suitability for any desired use. If the product must be sterile and pyrogen-free for a desired application, CIL recommends that the product be packaged or formulated into its ultimate dose form by the customer or appropriate local facility. The product should always be tested by a qualified pharmacy/facility prior to actual use.

CIL research products are labeled "For research use only. Not for use in diagnostic procedures." Persons intending to use CIL products in applications involving humans are responsible for complying with all applicable laws and regulations, including, but not limited to the US FDA, other local regulatory authorities, and institutional review boards concerning their specific application or desired use.

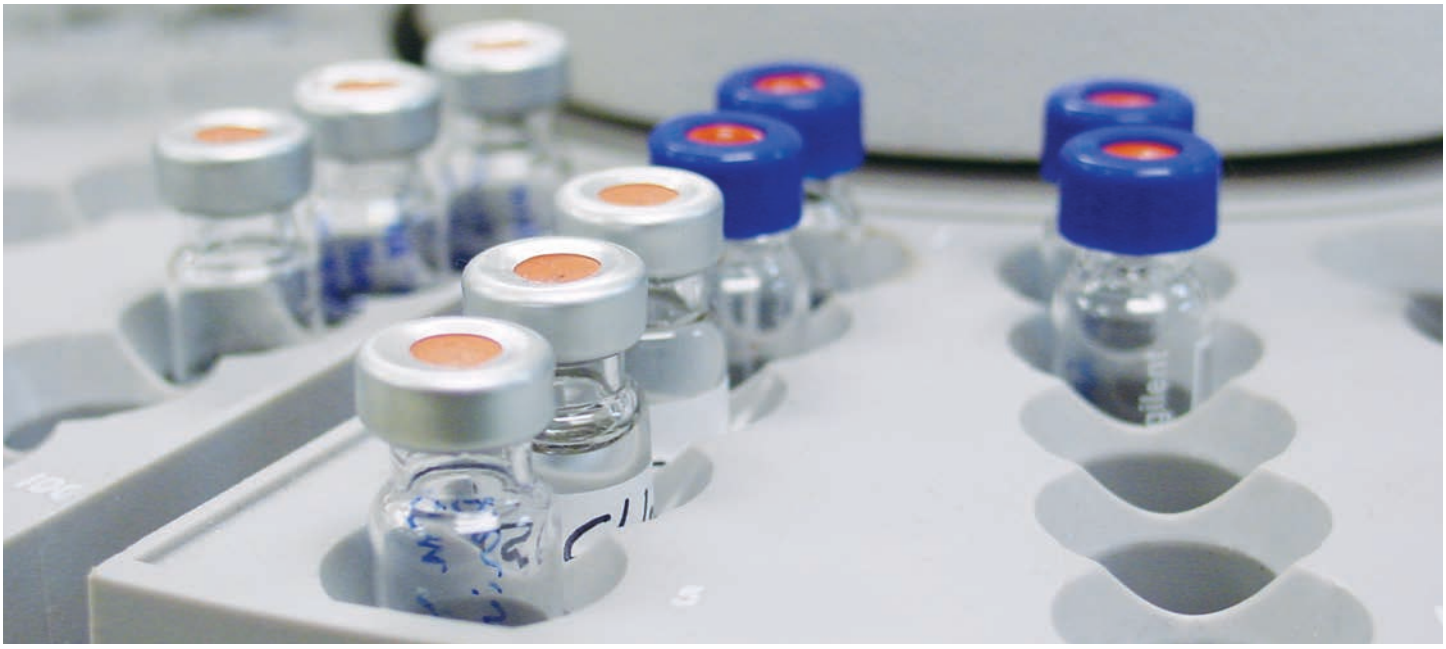
It may be necessary to obtain approval for using these research products in humans from the US FDA or the comparable governmental agency in the country of use. CIL will provide supporting information, such as lot-specific analytical data and test method protocols, to assist medical research groups in obtaining approval for the desired use. An Enhanced Data Package (EDP) is also available (see next page for an overview of the technical package contents).

CIL will allocate a specific lot of a product to customers who are starting long-term projects requiring large amounts of material. Benefits from this type of arrangement include experimental consistency arising from use of only one lot, no delay in shipments, and guaranteed stock. Please note that some CIL products have a specific shelf life and cannot be held indefinitely. If interested, please contact your sales manager for further details.

Because of increasing regulatory requirements, CIL manufactures different grades of materials to help researchers with those requirements. Listed below are the grades of materials that CIL currently manufactures:

Catalog No.	Description
CLM-XXX-**PK**	Research grade
CLM-XXX-**MPT-PK**	Microbiologically and Pyrogen Tested
CLM-XXX-**CTM**	Manufactured following ICH Q7, Section XIX
CLM-XXX-**GMP**	Good Manufacturing Practices grade

For more information on controls in manufacturing and testing of the different grades, see our **Product Quality Designations flyer**.



Images used are for illustrative purposes only and may not be representative of actual product(s).

Chemical purity (CP) is 98% or greater, unless otherwise specified. MPT (microbiological and pyrogen tested) may be available; please inquire.
For research use only. Not for use in diagnostic procedures.

Enhanced Data Package (EDP)

CIL offers the option of an Enhanced Data Package (EDP). This technical data package is available for most MPT products. It includes all of the data currently included with the MPT products, as well as the additional information listed below. You have the option of purchasing this package at the time of order or at a later date.

Please note that if you choose to purchase at a later date, some of the information listed below may not be available. Also, the EDP may not be available for all lots. In some cases, only a partial EDP may be available. Please confirm availability and content prior to order.

EDP Contents

- Product description: structural formula, stereochemical description, molecular formula.
- Product physical properties: melting point, pH, optical rotation (mix of literature or measured values).
- Outline of the synthesis route (including details of solvents used).
- Data used to confirm structure and chemical purity.
- Impurities: available data on impurities detected and identified together with the method of detection and the cutoff applied.
- Residual solvents: measured residual solvents from the final synthetic step and purification.
- Certificates of Analysis of raw materials, where appropriate.
- Informal stability data: estimated and measured.
  - This will be either actual shelf-life data, if it can be obtained from CIL history or by analysis of in-stock batches, or
  - If no data is available, CIL will commit to assaying the batch provided after six months and one year. Data will be provided after one year, unless the batch fails assay after six months. This option will not be available if the Enhanced Data Package is ordered at a later date.

cGMP Production Capabilities

With increasing requirements from institutional review boards (IRBs) and governmental agencies, partnering with CIL for your next stable isotope cGMP (current good manufacturing practices) project can help ensure your regulatory compliance. With the world's largest ^{13}C and ^{18}O isotope-separation plants, CIL is able to provide the raw materials necessary for your project. Your compound of interest most likely already appears in CIL's extensive list of research compounds – if not, CIL's team of PhD chemists can determine the best method of synthesis for incorporating ^{13}C, ^{15}N, D, ^{17}O, and/or ^{18}O into your compound.

CIL has manufactured bulk active pharmaceutical ingredients (APIs) since 1994. It recently added a 15,000-square-foot, state-of-the-art cGMP facility to complement its existing cGMP facilities. An additional team of experts – specializing in synthetic chemistry, customer support, quality control, and quality assurance – serves to provide technical guidance from beginning to end of your project. Partner with CIL to help you meet your increasing regulatory compliance requirements.

Products of Interest

Catalog No.	Description
CLM-804-CTM	Cholesterol (3,4-$^{13}C_2$)
DLM-349-CTM	D-Glucose (6,6-D_2)
CLM-2262-CTM	L-Leucine ($^{13}C_6$)
DLM-1259-CTM	L-Leucine (5,5,5-D_3)
CLM-762-CTM	L-Phenylalanine (1-^{13}C)
CLM-8077-CTM	Pyruvic acid (1-^{13}C)
CLM-156-CTM	Sodium acetate (1-^{13}C)
CLM-440-CTM	Sodium acetate (1,2-$^{13}C_2$)
CLM-311-GMP	Urea (^{13}C)

Other products may be available as CTM/cGMP. Please inquire for details.

Manufacturing Capabilities

- Dedicated development facility
- Five production and two isolation suites
- Dedicated packaging room
- Production scale from milligrams to multikilograms
- Clinical trials to bulk API
- Customizable projects to meet your needs

Analytical Services

- Fully equipped, cGMP-dedicated analytical facility
- Method development and validation
- Raw material and final product testing
- Wet chemistry and compendial methods
- Stability studies and chambers
- Analytical instrumentation:
  - High-field NMR (^1H, D, ^{13}C, ^{15}N, multinuclear)
  - HPLC with UV, RI, ELSD, DA, Pickering, and MS detection
  - GC with FID, ECD, and MS detection
  - KF
  - FT-IR
  - Polarimetry
  - TOC

Quality and Compliance

- Drug master files
- FDA-audited facility
- QA release of API product
- Follows FDA and ICH guidances
- CMC sections for NDA or IND

CTM: manufactured following ICH Q7, Section XIX
GMP: good manufacturing practices grade

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Please visit isotope.com for a complete list of isotope-labeled compounds.

CIL's products are distributed and sold worldwide via our extensive network.
Our distributor listing is available at isotope.com.

To request a quotation or place an order:
North America: 1.800.322.1174 | 1.978.749.8000 | cilsales@isotope.com
International: +1.978.749.8000 | intlsales@isotope.com
Fax: 1.978.749.2768 | isotope.com

Custom synthesis and formulations are also available. Please inquire.

CIL provides additional testing on many products as a service to our customers. CIL also has cGMP capabilities and can manufacture products to meet your increasing regulatory compliance requirements. Please contact us to learn more.

CIL products are labeled "For research use only. Not for use in diagnostic procedures."