



Stable Isotope-Labeled Standards and Mixtures for Lipidomics

For Qualifying, Quantifying, and Monitoring 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.

CIL is pleased to offer a multitude of stable isotope-labeled (and unlabeled) fatty acids and lipids in their individual standard or mix form. The fatty acids cover saturated and unsaturated classes, while the lipids include ceramides and phospholipids along with triacylglycerides. 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). Additional standards may be available. For a complete listing, visit isotope.com.

Fatty Acids (FAs)

Catalog No.	Description
4:0 Butyric Acid or Butanoic Acid	
CLM-9666	Butyric acid (1- ¹³ C, 99%)
CLM-9215	Butyric acid (¹³ C ₄ , 99%)
DLM-1110	Butyric acid (3,3,4,4,4-D ₅ , 97%)
DLM-1508	Butyric acid (D ₇ , 98%)
5:0 Pentanoic Acid or Valeric Acid	
CLM-10349	Pentanoic acid (3,5- ¹³ C ₂ , 99%)
DLM-572	Pentanoic acid (D ₉ , 98%)
6:0 Hexanoic Acid or Caproic Acid	
CLM-3519	Hexanoic acid (1- ¹³ C, 99%)
DLM-3030	Hexanoic acid (2,2-D ₂ , 98%)
DLM-612	Hexanoic acid (methyl-D ₃ , 98%)
DLM-11023	Hexanoic acid (4,4,5,5,6,6-D ₇ , 98%)
DLM-277	Hexanoic acid (D ₁₁ , 98%)

Catalog No.	Description
7:0 Heptanoic Acid or Enanthic Acid	
DLM-11088	Heptanoic acid (7,7,7-D ₃ , 99%)
DLM-1820	Heptanoic acid (2,2,3,3-D ₄ , 98%)
DLM-2731	Heptanoic acid (D ₁₃ , 98%)
8:0 Octanoic Acid or Caprylic Acid	
CLM-293	Octanoic acid (1- ¹³ C, 99%)
CLM-293-MPT	Octanoic acid (1- ¹³ C, 99%) (microbiological/pyrogen tested)
CLM-3827	Octanoic acid (1,2- ¹³ C ₂ , 99%)
CLM-2721	Octanoic acid (1,2,3,4- ¹³ C ₄ , 99%)
CLM-3981	Octanoic acid (¹³ C ₈ , 99%)
DLM-619	Octanoic acid (D ₁₅ , 98%)
9:0 Nonanoic Acid or Pelargonic Acid	
CLM-8724	Nonanoic acid (U- ¹³ C ₉ , 98%)
DLM-7490	Nonanoic acid (9,9,9-D ₃ , 98%)
DLM-9501	Nonanoic acid (D ₁₇ , 98%)

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Chemical purity (CP) is 98% or greater, unless otherwise indicated.

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Fatty Acids (FAs) (continued)

Catalog No.	Description
10:0 Decanoic Acid or Capric Acid	
DLM-2006	Decanoic acid (methyl-D ₃ , 98%)
DLM-270	Decanoic acid (D ₁₉ , 98%)
12:0 Dodecanoic Acid or Lauric Acid	
CLM-1586	Lauric acid (1- ¹³ C, 99%)
DLM-3062	Lauric acid (methyl-D ₃ , 99%)
DLM-563	Lauric acid (D ₂₃ , 98%)
13:0 Tridecanoic Acid or Tridecylic Acid	
DLM-1392	Tridecanoic acid (D ₂₅ , 98%)
14:0 Myristic Acid or Tetradecanoic Acid	
CLM-1844	Myristic acid (1- ¹³ C, 99%)
CLM-3665	Myristic acid (1,2,3- ¹³ C ₃ , 99%)
DLM-1039	Myristic acid (methyl-D ₃ , 98%)
DLM-7487	Myristic acid (13,13,14,14,14-D ₅ , 98%)
DLM-11024	Myristic acid (12,12,13,13,14,14,14-D ₇ , 98%)
DLM-208	Myristic acid (D ₂₇ , 98%)
15:0 Pentadecanoic Acid or Pentadecylic Acid	
DLM-1307	Pentadecanoic acid (methyl-D ₃ , 98%)
16:0 Palmitic Acid or Hexadecanoic Acid	
CLM-150	Palmitic acid (1- ¹³ C, 99%)
CLM-150-MPT	Palmitic acid (1- ¹³ C, 99%) (microbiological/pyrogen tested)
CLM-2120	Palmitic acid (2- ¹³ C, 99%)
CLM-214	Palmitic acid (1,2- ¹³ C ₂ , 99%)
CLM-7896	Palmitic acid (1,2,3,4- ¹³ C ₄ , 99%)
CLM-7896-MPT	Palmitic acid (1,2,3,4- ¹³ C ₄ , 99%) (microbiological/pyrogen tested)
CLM-10962	Palmitic acid (1,2,3,4,5,6- ¹³ C ₆ , 99%)
CLM-409	Palmitic acid (U- ¹³ C ₁₆ , 98%)
CLM-409-MPT	Palmitic acid (U- ¹³ C ₁₆ , 98%) (microbiological/pyrogen tested)
DLM-8673	Palmitic acid (12-D, 98%)
DLM-1153	Palmitic acid (2,2-D ₂ , 98%)
DLM-2890	Palmitic acid (9,9-D ₂ , 98%)
DLM-2891	Palmitic acid (13,13-D ₂ , 98%)
DLM-611	Palmitic acid (methyl-D ₃ , 98%)
DLM-2893	Palmitic acid (7,7,8,8-D ₄ , 98%)
DLM-2893-MPT	Palmitic acid (7,7,8,8-D ₄ , 98%) (microbiological/pyrogen tested)
DLM-2894	Palmitic acid (11,11,12,12-D ₄ , 98%)
DLM-9424	Palmitic acid (13,13,14,14,15,15,16,16-D ₉ , 98%)
DLM-2895	Palmitic acid (9,9,...16,16,16-D ₁₇ , 98%) CP 97%
DLM-215	Palmitic acid (D ₃₁ , 98%)
DLM-215-MPT	Palmitic acid (D ₃₁ , 98%) (microbiological/pyrogen tested)
ULM-10680	Palmitic acid (unlabeled)
16:1 Palmitoleic Acid or Zoomeric Acid	
CLM-2241	Palmitoleic acid (U- ¹³ C ₁₆ , 98%) CP 97%
17:0 Heptadecanoic Acid or Margaric Acid	
DLM-1308	Heptadecanoic acid (methyl-D ₃ , 98%)
DLM-6905	Heptadecanoic acid (D ₃₃ , 98%)

Catalog No.	Description
18:0 Stearic Acid or Octadecanoic Acid	
CLM-490	Stearic acid (methyl- ¹³ C, 99%)
CLM-676	Stearic acid (1- ¹³ C, 99%)
CLM-6990	Stearic acid (U- ¹³ C ₁₈ , 98%) CP 97%
DLM-1154	Stearic acid (methyl-D ₃ , 98%)
DLM-2712	Stearic acid (17,17,18,18,18-D ₅ , 98%)
DLM-379	Stearic acid (D ₃₅ , 98%)
18:1 Oleic Acid or Elainic Acid	
CLM-149	Oleic acid (1- ¹³ C, 99%)
CLM-149-MPT	Oleic acid (1- ¹³ C, 99%) (microbiological/pyrogen tested)
CLM-2492	Oleic acid (methyl- ¹³ C, 99%)
CLM-460	Oleic acid (U- ¹³ C ₁₈ , 98%)
DLM-689	Oleic acid (9,10-D ₂ , 97%)
DLM-689-MPT	Oleic acid (9,10-D ₂ , 97%) (microbiological/pyrogen tested)
DLM-1891	Oleic acid (D ₃₃ , 98%)
ULM-10649	Oleic acid (unlabeled)
18:2 Linoleic Acid or Telfairic Acid	
CLM-9688	Linoleic acid (1- ¹³ C, 99%)
CLM-6855	Linoleic acid (U- ¹³ C ₁₈ , 98%) (<10% <i>cis/trans</i> isomer) CP 94%
18:3 Linolenic Acid or (9Z,12Z,15Z)-Octadecatrienoic Acid	
CLM-8386	Linolenic acid (U- ¹³ C ₁₈ , 98%) CP 95%
DLM-9348	Linolenic acid (17,17,18,18,18-D ₅ , 98%) CP 90%
19:0 Nonadecanoic Acid or Nonadecylic Acid	
DLM-10367	Nonadecanoic acid (D ₃₇ , 98%)
20:0 Arachidic Acid or Eicosanoic Acid	
CLM-1239	Arachidic acid (1- ¹³ C, 99%)
DLM-10481	Arachidic acid (2,2-D ₂ , 98%)
DLM-1234	Arachidic acid (methyl-D ₃ , 98%) CP 97%
DLM-10519	Arachidic acid (12,12,13,13-D ₄ , 98%)
DLM-1233	Arachidic acid (D ₃₉ , 98%)
20:4 Arachidonic Acid or (5Z,8Z,11Z,14Z)-Eicosatetraenoic Acid	
DLM-1661-N	Arachidonic acid (5,6,8,9,11,12,14,15-D ₈ , 98%)
DLM-11670	Arachidonic acid (d16,16,17,17,8,18,19,19,20,20,20-D ₁₁ , 98%) CP 95%
20:5 Eicosapentaenoic Acid or Timnodonic Acid	
CLM-8389	Eicosapentaenoic acid (U- ¹³ C ₂₀ , 98%)
DLM-9720	<i>cis</i> -5,8,11,14,17-Eicosapentaenoic acid (19,19,20,20,20-D ₅ , 98%)
ULM-10024	<i>cis</i> -5,8,11,14,17-Eicosapentaenoic acid (unlabeled)
22:0 Docasanoic Acid or Behenic Acid	
CLM-9909	Docosanoic acid (1,2,3,4,5,6- ¹³ C ₆ , 99%) CP 95%
DLM-9180	Docosanoic acid (22,22,22-D ₃ , 98%)
DLM-9951	Docosanoic acid (3,3,5,5-D ₄ , 98%) CP 95%
DLM-10503	Docosanoic acid (12,12,13,13-D ₄ , 98%)
DLM-4703	Docosanoic acid (D ₄₃ , 98%)
22:6 Docosahexaenoic Acid or Cervonic Acid	
CLM-8388	Docosahexaenoic acid (U- ¹³ C ₂₂ , 99%) (may contain 5% docosapentaenoic acid)

Chemical purity (CP) is 98% or greater, unless otherwise indicated.

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Fatty Acids (FAs) *(continued)*

Catalog No.	Description
DLM-10012	Docosahexaenoic acid (21,21,22,22-D ₅ , 98%)
ULM-10013	Docosahexaenoic acid (unlabeled)
24:0 Tetracosanoic Acid or Lignoceric Acid	
CLM-9932	Tetracosanoic acid (1,2,3,4,5,6- ¹³ C ₆ , 99%) CP 96%
DLM-9952	Tetracosanoic acid (3,3,5,5-D ₄ , 98%) CP 95%
DLM-9179	Tetracosanoic acid (9,9,10,10-D ₄ , 98%)
DLM-10502	Tetracosanoic acid (12,12,13,13-D ₄ , 98%)
DLM-7302	Tetracosanoic acid (D ₄₇ , 98%)
26:0 Hexacosanoic Acid or Cerotic Acid	
CLM-9790	Hexacosanoic acid (1,2,3,4,5,6- ¹³ C ₆ , 99%)
DLM-9953	Hexacosanoic acid (3,3,5,5-D ₄ , 98%) CP 95%
DLM-8510	Hexacosanoic acid (12,12,13,13-D ₄ , 98%)

Fatty Acid Salts (FA Salts)

Catalog No.	Description
4:0 Butanoate	
CLM-1256	Sodium butyrate (1- ¹³ C, 99%)
CLM-4780	Sodium butyrate (2- ¹³ C, 99%)
CLM-10426	Sodium butyrate (¹³ C ₄ , 99%)
DLM-641	Sodium butyrate (3,3,4,4,4-D ₅ , 98%)
DLM-7616	Sodium butyrate (D ₇ , 98%)
8:0 Octanoate	
CLM-1948	Sodium octanoate (1- ¹³ C, 99%)
CLM-1948-MPT	Sodium octanoate (1- ¹³ C, 99%) (microbiological/pyrogen tested)
CLM-3876	Sodium octanoate (1,2,3,4- ¹³ C ₄ , 99%)
CLM-3980	Sodium octanoate (2,4,6,8- ¹³ C ₄ , 99%)
CLM-9617	Sodium octanoate (¹³ C ₈ , 99%)
14:0 Myristate	
CLM-6228	Myristic acid, potassium salt (1- ¹³ C, 99%)
CLM-8695	Myristic acid, sodium salt (1,2,3- ¹³ C ₃ , 99%)
16:0 Palmitate	
CLM-1889	Potassium palmitate (1- ¹³ C, 99%)
CLM-1889-MPT	Potassium palmitate (1- ¹³ C, 99%) (microbiological/pyrogen tested)
CLM-6865	Potassium palmitate (1,2,3,4- ¹³ C ₄ , 99%)
CLM-6865-MPT	Potassium palmitate (1,2,3,4- ¹³ C ₄ , 99%) (microbiological/pyrogen tested)
CLM-10942	Potassium palmitate (1,2,3,4,5,6- ¹³ C ₆ , 99%)
CLM-3943	Potassium palmitate (U- ¹³ C ₁₆ , 98%)
CLM-3943-MPT	Potassium palmitate (U- ¹³ C ₁₆ , 98%) (microbiological/pyrogen tested)
DLM-3773	Potassium palmitate (2,2-D ₂ , 97%)
DLM-3773-MPT	Potassium palmitate (2,2-D ₂ , 97%) (microbiological/pyrogen tested)
DLM-6199	Potassium palmitate (methyl-D ₃ , 98%)
DLM-6033	Potassium palmitate (7,7,8,8-D ₄ , 98%)
DLM-6033-MPT	Potassium palmitate (7,7,8,8-D ₄ , 98%) (microbiological/pyrogen tested)
CLM-174	Sodium palmitate (1- ¹³ C, 99%)
CLM-174-MPT	Sodium palmitate (1- ¹³ C, 99%) (microbiological/pyrogen tested)
CLM-6059	Sodium palmitate (U- ¹³ C ₁₆ , 98%)
18:0 Stearate	
CLM-6227	Stearic acid, potassium salt (1- ¹³ C, 99%)
CLM-10365	Stearic acid, sodium salt (U- ¹³ C ₁₈ , 99%) CP 97%
18:1 Oleate	
CLM-4477	Oleic acid, potassium salt (1- ¹³ C, 99%)
CLM-8856	Oleic acid, potassium salt (U- ¹³ C ₁₈ , 98%)
DLM-8837	Oleic acid, potassium salt (15,15,16,16,17,17,18,18,18-D ₉ , 98%)
CLM-6230	Oleic acid, sodium salt (1- ¹³ C, 99%)
CLM-8763	Oleic acid, sodium salt (U- ¹³ C ₁₈ , 98%)
18:2 Linoleate	
CLM-6229	Linoleic acid, potassium salt (1- ¹³ C, 99%)
CLM-8835	Linoleic acid, potassium salt (U- ¹³ C ₁₈ , 98%) (may have up to 5% isomers) CP 97%

Chemical purity (CP) is 98% or greater, unless otherwise indicated.

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Fatty Acid Methyl Esters (FAMES) and Fatty Acid Ethyl Esters (FAEEs)

Catalog No.	Description
16:0 Palmitic Acid or Hexadecanoic Acid	
CLM-3957	Palmitic acid, ethyl ester (palmitate-U- ¹³ C ₁₆ , 98%) CP 95%
DLM-8793	Palmitic acid, ethyl ester (D ₃₁ , 98%)
CLM-11289	Palmitic acid, methyl ester (1,2,3,4- ¹³ C ₄ , 99%)
CLM-8390	Palmitic acid, methyl ester (palmitate-U- ¹³ C ₁₆ , 98%)
16:1 Palmitoleic Acid or Zoomeric Acid	
CLM-3958	Palmitoleic acid, ethyl ester (palmitoleate-U- ¹³ C ₁₆ , 98%) CP 97%
CLM-8391	Palmitoleic acid, methyl ester (palmitoleate-U- ¹³ C ₁₆ , 98%) CP 97%
18:0 Stearic Acid or Octadecanoic Acid	
CLM-8731	Stearic acid, ethyl ester (stearate-U- ¹³ C ₁₈ , 98%)
CLM-8394	Stearic acid, methyl ester (stearate-U- ¹³ C ₁₈ , 98%) CP 95%
18:1 Oleic Acid or Elainic Acid	
CLM-3959	Oleic acid, ethyl ester (oleate-U- ¹³ C ₁₈ , 98%)
DLM-8747	Oleic acid, ethyl ester (D ₃₃ , 98%) CP 95%
CLM-4337	Oleic acid, methyl ester (oleate-U- ¹³ C ₁₈ , 98%)
18:2 Linoleic Acid or Telfairic Acid	
CLM-2119	Linoleic acid, ethyl ester (1- ¹³ C, 99%)
CLM-3960	Linoleic acid, ethyl ester (linoleate-U- ¹³ C ₁₈ , 98%) CP 95%
CLM-3960-MPT	Linoleic acid, ethyl ester (linoleate-U- ¹³ C ₁₈ , 98%) (microbiological/pyrogen tested) CP 95%
DLM-227	Linoleic acid, ethyl ester (17,17,18,18,18-D ₅ , 98%)
DLM-766	Linoleic acid, ethyl ester (D ₃₁ , 98%) CP 95%
CLM-8395	Linoleic acid, methyl ester (linoleate-U- ¹³ C ₁₈ , 98%) CP 95%
DLM-9663	Linoleic acid, methyl ester (D ₃₁ , 98%) CP 95%
18:3 Linolenic Acid	
DLM-2351	Linolenic acid, ethyl ester (17,17,18,18,18-D ₅ , 98%) CP 95%
CLM-8396	Linolenic acid, methyl ester (linolenate-U- ¹³ C ₁₈ , 98%) CP 95%
20:4 Arachidonic Acid	
CLM-8397	Arachidonic acid, methyl ester (arachidonate-U- ¹³ C ₂₀ , 98%) CP 95%
20:5 Eicosapentaenoic Acid or Timnodonic Acid	
DLM-10558	Eicosapentaenoic acid, ethyl ester (19,19,20,20,20-D ₅ , 98%) CP 95%
CLM-8399	Eicosapentaenoic acid, methyl ester (eicosapentaenoate-U- ¹³ C ₂₀ , 90%)
DLM-10559	cis-5,8,11,14,17-Eicosapentaenoic acid, methyl ester (19,19,20,20,20-D ₅) CP 95%
22:6 Docosahexaenoic Acid or Cervonic Acid	
DLM-10015	Docosahexaenoic acid, ethyl ester (21,21,22,22,22-D ₅ , 98%) CP 95%
ULM-10016	Docosahexaenoic acid, ethyl ester (unlabeled)
CLM-8398	Docosahexaenoic acid, methyl ester (docosahexaenoate-U- ¹³ C ₂₂ , 99%) (may contain 5% docosapentaenoic acid)
DLM-10014	Docosahexaenoic acid, methyl ester (21,21,22,22,22-D ₅ , 98%) CP 97%

Chemical purity (CP) is 98% or greater, unless otherwise indicated.

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Triacylglycerides (TGs or TAGs)

Catalog No.	Description
TG(7:0/7:0/7:0) or Glycerol Triheptanoate	
DLM-11086	Triheptanoin (tris(heptanoyl-7,7,7)-D ₉ , 98%)
TG(8:0/8:0/8:0) or Glycerol Trioctanoate	
CLM-162	Trioctanoin (1,1,1- ¹³ C ₃ , 99%)
CLM-162-MPT	Trioctanoin (1,1,1- ¹³ C ₃ , 99%) (microbiological/pyrogen tested)
TG(16:0/16:0/16:0) or Glycerol Tripalmitate	
CLM-164	Tripalmitin (1,1,1- ¹³ C ₃ , 99%)
CLM-164-MPT	Tripalmitin (1,1,1- ¹³ C ₃ , 99%) (microbiological/pyrogen tested)
CLM-350	Tripalmitin (2,2,2- ¹³ C ₃ , 99%)
CLM-8445	Tripalmitin (glyceryl- ¹³ C ₃ , 99%)
CLM-9468	Tripalmitin (1,1,1,2,2,2,3,3,3,4,4,4- ¹³ C ₁₂ , 99%)
DLM-9986	Tripalmitin (glyceryl-D ₅ , 98%)
DLM-9462	Tripalmitin (trispalmitoyl-D ₉₃ , 98%)
DLM-9044	Tripalmitin (D ₉₉ , 98%)
TG(18:0/18:0/18:0) or Glycerol Tristearate	
CLM-3707	2-Octanoyl-1,3-distearin (octanoic-1- ¹³ C, 99%)
CLM-3707-MPT	2-Octanoyl-1,3-distearin (octanoic-1- ¹³ C, 99%) (microbiological/pyrogen tested)
CLM-4258	2-Octanoyl-1,3-distearin (octanoyl-1,2- ¹³ C ₂ , 99%)
DLM-7875	Tristearin (tristearoyl-D ₁₀₅ , 98%)
TG(18:1/18:1/18:1) or Glycerol Trioleate	
CLM-4259	2-Octanoyl-1,3-diolein (octanoyl-1,2- ¹³ C ₂ , 99%)
CLM-163	Triolein (1,1,1- ¹³ C ₃ , 99%)
CLM-163-MPT	Triolein (1,1,1- ¹³ C ₃ , 99%) (microbiological/pyrogen tested)

Fatty Acid (FA) and Triglyceride (TG) Extracts

Catalog No.	Description
CLM-8455	Fatty Acid Algal Extract (U- ¹³ C, 98%)
CLM-8455-MPT	Fatty Acid Algal Extract (U- ¹³ C, 98%) (microbiological/pyrogen tested)
DLM-8572	Fatty Acid Algal Extract (U-D, 96%)
CDLM-8376	Fatty Acid Algal Extract (U- ¹³ C, 98%; U-D, 97%)
CLM-8381	Fatty Acid, Methyl Ester Algal Extract (U- ¹³ C, 98%) (unlabeled terminal ester) CP 95%
DLM-2497	Fatty Acid, Methyl Ester Algal Extract (U-D, 96%)
DLM-8375	Triglyceride Algal Extract (U-D, 97%)

Note: Algal extract compositions vary by lot (see CoA for details).

Measuring Fatty Acid (FA) Synthesis

Catalog No.	Description
DLM-4-99	Deuterium oxide (D, 99%)
DLM-4-70	Deuterium oxide (D, 70%)
CLM-1396	D-Glucose ($^{13}\text{C}_6$, 99%)
CLM-1397	Glycerol (2- ^{13}C , 99%)
CLM-460	Oleic acid ($^{13}\text{C}_{18}$, 98%)
CLM-156	Sodium acetate (1- ^{13}C , 99%)

Coenzymes

Catalog No.	Description	Abbreviation
CLM-9768	Butyryl coenzyme A, lithium salt (butyryl- $^{13}\text{C}_4$, 99%) CP 95%	Butyryl-CoA
DLM-10279	Coenzyme Q10 (dimethoxy-D ₆ , methyl-D ₃ , 98%) CP 97%	CoQ10

Ceramides (Cer)

Catalog No.	Description	Abbreviation
CLM-9582	<i>N</i> -Palmitoyl-D-sphingosine (ceramide d18:1/16:0) (palmitoyl-U- $^{13}\text{C}_{16}$, 99%) CP 95%	Cer 34:1
DLM-11674	<i>N</i> -Palmitoyl-D-sphingosine (ceramide d18:1/16:0) (16,16,17,17,18,18,18-D ₇ , 98%) CP 95%	Cer 34:1
DLM-11672	<i>N</i> -Stearoyl-D-sphingosine (ceramide d18:1/18:0) (d16,16,17,17,18,18,18-D ₇ , 98%) CP 95%	Cer 36:1
CLM-9583	<i>N</i> -Oleoyl-D-sphingosine (ceramide d18:1/18:1) (oleoyl-U- $^{13}\text{C}_{18}$, 99%) CP 95%	Cer 36:2
DLM-11673	<i>N</i> -Tetracosanoylsphingosine (ceramide d18:1/24:0) (16,16,17,17,18,18,18-D ₇ , 98%) CP 95%	Cer 42:1
DLM-11671	<i>N</i> -Nervonoyl-D-sphingosine (ceramide d18:1/24:1) (16,16,17,17,18,18,18-D ₇ , 98%) CP 95%	Cer 42:2

Note: Unlabeled standards may be available; please inquire.

Cholesterol and Derivatives

Catalog No.	Description
CLM-804	Cholesterol (3,4- $^{13}\text{C}_2$, 99%)
CLM-804-MPT	Cholesterol (3,4- $^{13}\text{C}_2$, 99%) (microbiological/pyrogen tested)
CLM-9139	Cholesterol (2,3,4- $^{13}\text{C}_3$, 99%)
CLM-9587	Cholesterol (23,24,25,26,27- $^{13}\text{C}_5$, 99%)
DLM-1831	Cholesterol (3-D, 97%)
DLM-7260	Cholesterol (25,26,26,26-D ₄ , 98%)
DLM-2607	Cholesterol (2,2,3,4,4,6-D ₆ , 97%)
DLM-3057	Cholesterol (25,26,26,26,27,27-D ₇ , 98%)
OLM-7695	Cholesterol (^{18}O , 95%)
CLM-3361	Cholesterol-3-octanoate (octanoate-1- ^{13}C , 99%)
DLM-10416	Cholesterol-3-sulfate, sodium salt (25,26,26,26,27,27-D ₇ , 98%)
DLM-4216	7-Dehydrocholesterol (25,26,26,26,27,27-D ₇ , 98%)
CLM-7768	Epicholesterol (3,4- $^{13}\text{C}_2$, 99%)
ULM-10267	7- α -Hydroxycholesterol (unlabeled)
DLM-8646	7- β -Hydroxycholesterol (25,26,26,26,27,27-D ₇ , 98%) CP 97%
DLM-8647	7-Ketocholesterol (25,26,26,26,27,27-D ₇ , 98%)

Note: Unlabeled standards may be available; please inquire.

Chemical purity (CP) is 98% or greater, unless otherwise indicated.

For research use only. Not for diagnostic procedures.

Carnitines and Acylcarnitines

Catalog No.	Description	Abbreviation
DLM-1871	L-Carnitine-HCl (methyl-D ₃ , 98%)	C0
DLM-3820	L-Carnitine-HCl (dimethyl-D ₆ , 98%)	C0
DLM-10962	L-Carnitine-HCl (trimethyl-D ₉ , 98%)	C0
DLM-3555	L-Carnitine (trimethyl-D ₉ , 98%)	C0
DLM-754	L-Carnitine-HCl, O-acetyl (N-methyl-D ₃ , 98%)	C2
DLM-3821	L-Carnitine-HCl, O-acetyl (N,N-dimethyl-D ₆ , 98%) CP 97%	C2
DLM-3973	L-Carnitine-HCl, O-propionyl (N-methyl-D ₃ , 98%)	C3
DLM-11049	L-Carnitine-ClO ₄ , O-malonyl (N-methyl-D ₃ , 98%)	C3-DC
DLM-3861	L-Carnitine-HCl, O-butyryl (N-methyl-D ₃ , 98%)	C4
DLM-11769	L-Carnitine-HCl, O-3-hydroxybutyryl (N-methyl-D ₃ , 98%) CP 95%	C4-OH
DLM-3974	L-Carnitine-HCl, O-isovaleryl (N,N,N-trimethyl-D ₉ , 98%)	C5
DLM-12325	L-Carnitine-ClO ₄ , tiglyl (N,N,N-trimethyl-D ₉ , 98%) CP 90%	C5:1
DLM-3975	L-Carnitine (mono-ClO ₄), O-glutaryl (N-methyl-D ₃ , 98%) CP 97%	C5-DC
DLM-8272	L-Carnitine-ClO ₄ , 3-hydroxyisovaleryl (N-methyl-D ₃ , 98%)	C5-OH
DLM-9276	L-Carnitine-HCl, O-hexanoyl (N-methyl-D ₃ , 98%)	C6
DLM-755	L-Carnitine-HCl, O-octanoyl (N-methyl-D ₃ , 98%)	C8
DLM-9067	L-Carnitine-HCl, O-decanoyl (N-methyl-D ₃ , 98%)	C10
CNLM-11665	L-Carnitine-HCl, O-decanoyl (trimethyl- ¹³ C ₃ , 98%; ¹⁵ N, 98%) CP 95%	C10
DLM-8746	L-Carnitine-HCl, O-dec-2-enoyl (95% E) (N,N,N-trimethyl-D ₉ , 98%)	C10:1
DLM-8162	L-Carnitine-HCl, O-dodecanoyl (N-methyl-D ₃ , 98%)	C12
DLM-8215	L-Carnitine-HCl, O-dodecanoyl (N,N,N-trimethyl-D ₉ , 98%)	C12
DLM-4425	L-Carnitine-HCl, O-myristoyl (N,N,N-trimethyl-D ₉ , 98%)	C14
DLM-12326	L-Carnitine-ClO ₄ , tetradec-5-cis-enoyl (N,N,N-trimethyl-D ₉ , 98%) CP 90%	C14:1
DLM-1263	L-Carnitine-HCl, O-palmitoyl (N-methyl-D ₃ , 98%)	C16
DLM-9189	L-Carnitine (mono-ClO ₄), O-3-DL-hydroxypalmitoyl (N-methyl-D ₃ , 98%)	C16-OH
DLM-8271	L-Carnitine-HCl, O-octadecanoyl (N-methyl-D ₃ , 98%)	C18
CNLM-11666	L-Carnitine-HCl, O-octadecanoyl (trimethyl- ¹³ C ₃ , 98%; ¹⁵ N, 98%) CP 95%	C18
DLM-11594	L-Carnitine, O-hexacosanoyl (N-methyl-D ₃ , 98%) CP 95%	C26
DLM-11741	L-Carnitine-ClO ₄ , O-hexacosanoyl (N-methyl-D ₃ , 98%) CP 95%	C26
DLM-11174	L-Carnitine-HCl, O-hexacosanoyl (N,N,N-trimethyl-D ₉ , 98%) CP 95%	C26

Note: Unlabeled standards may be available for these, as well as others (e.g., C4-DC, ULM-12274); please inquire.

Carnitine and Acylcarnitine Mixtures

Catalog No.	Description	No. of Metabolites
NSK-B	Carnitine/Acylcarnitine Standards Mix Set B	8
NSK-B-US	Carnitine/Acylcarnitine Standards Mix Set B (unlabeled)	8
NSK-B-G1	Carnitine/Acylcarnitine Standards Mix Supplement to NSK-B	5
NSK-B-G1-US	Carnitine/Acylcarnitine Standards Mix Supplement to NSK-B (unlabeled)	5

Note: Each dried-down mix is available in a 1-vial or 10-vial set. Please inquire for custom mix formulations.

Chemical purity (CP) is 98% or greater, unless otherwise indicated.

For research use only. Not for diagnostic procedures.

Phospholipids (PLPs) and Lysophospholipids (LPLs)

Catalog No.	Description	Abbreviation
DLM-2274	Dodecylphosphocholine (D ₃₈ , 98%)	DPC 12:0
DLM-4341	DL- α -Dihexanoyl phosphatidylcholine (D ₄₀ , 98%) CP 95%	DHPC 12:0
DLM-11093	1,2-Dimyristoyl- <i>sn</i> -glycero-3-phosphocholine (dimyristoyl-D ₅₄ , 97%; 50-60% on α carbons)	DMPC 28:0
CLM-9668	DL- α -Dipalmitoyl phosphatidylcholine (U- ¹³ C ₄₀ , 98%) CP 95%	DPPC 32:0
DLM-606	L- α -Dipalmitoyl phosphatidylcholine (dipalmitoyl-D ₆₂ , 98%) CP 95%	DPPC 32:0
DLM-8256	DL- α -Dipalmitoyl phosphatidylcholine (D ₈₀ , 98%) CP 95%	DPPC 32:0
CDLM-7572	L- α -Dipalmitoyl phosphatidylcholine (palmitate-U- ¹³ C ₃₂ , 98%; methyl-D ₉ choline, 98%) CP 95%	DPPC 32:0
DLM-7557	L-Dipalmitoyl phosphatidylglycerol (dipalmitoyl-D ₆₂ , 98%)	DPPG 16:0
DLM-11092	1,2-Diheptanoyl- <i>sn</i> -glycero-3-phosphocholine (heptanoyl-D ₂₆ , 97%; 50-60% on α carbons)	DHPC-C7
DLM-11085	1,2-Dihexanoyl- <i>sn</i> -glycero-3-phosphocholine (hexanoyl-D ₂₂ , 97%; 50-60% on α carbons)	DHPC-C6
DLM-11093	1,2-Dimyristoyl- <i>sn</i> -glycero-3-phosphocholine (dimyristoyl-D ₅₄ , 97%; 50-60% on α carbons)	DMPC
DLM-11097	1,2-Dimyristoyl- <i>sn</i> -glycero-3-phosphoglycerol, ammonium salt (dimyristoyl-D ₅₄ , 99%; 50-60% on α carbons)	DMPG
DLM-11094	1,2-Dipalmitoyl- <i>sn</i> -glycero-3-phosphocholine (dipalmitoyl-D ₆₂ , 97%; 50-60% on α carbons)	DPPC
DLM-11098	1,2-Dipalmitoyl- <i>sn</i> -glycero-3-phosphoethanolamine (dipalmitoyl-D ₆₂ , 97%; 50-60% on α carbons)	DPPE
DLM-11099	1,2-Dipalmitoyl- <i>sn</i> -glycero-3-phosphoserine, ammonium salt (dipalmitoyl-D ₆₂ , 97%; 50-60% on α carbons)	DPPS
DLM-11095	1,2-Dioleoyl- <i>sn</i> -glycero-3-phosphocholine (dioleoyl-D ₆₄ , 97%; 50-60% on α and allylic carbons)	DOPC
DLM-11100	1-Myristoyl-2-lyso- <i>sn</i> -glycero-3-phosphoglycerol, ammonium salt (myristoyl-D ₂₇ , 97%; 50-60% on α carbon)	LysoPC 14:0
DLM-10520	Lysophosphatidylcholine 20:0 (eicosanoyl-12,12,13,13-D ₄ , 98%)	LysoPC C20:0
CLM-10499	Lysophosphatidylcholine 22:0 (docosanoyl-1,2,3,4,5,6- ¹³ C ₆ , 99%)	LysoPC C22:0
DLM-10500	Lysophosphatidylcholine 22:0 (docosanoyl-12,12,13,13-D ₄ , 98%)	LysoPC C22:0
CLM-10496	Lysophosphatidylcholine 24:0 (tetracosanoyl-1,2,3,4,5,6- ¹³ C ₆ , 99%)	LysoPC C24:0
DLM-10497	Lysophosphatidylcholine 24:0 (tetracosanoyl-12,12,13,13-D ₄ , 98%)	LysoPC C24:0
CLM-9792	Lysophosphatidylcholine 26:0 (hexacosanoyl-1,2,3,4,5,6- ¹³ C ₆ , 99%)	LysoPC C26:0
DLM-10501	Lysophosphatidylcholine 26:0 (hexacosanoyl-12,12,13,13-D ₄ , 98%)	LysoPC C26:0
DLM-11101	1-Palmitoyl-2-lyso- <i>sn</i> -glycero-3-phosphoglycerol, ammonium salt (palmitoyl-D ₃₁ , 97%; 50-60% at α carbon)	LysoPPG
DLM-11096	1-Palmitoyl-2-oleoyl- <i>sn</i> -glycero-3-phosphocholine (fatty acids-D ₆₃ , 97%; 50-60% on α , vinyl carbons)	POPC

Note: Unlabeled standards may be available; please inquire.

LysoPC is also abbreviated as LPC.

Lysophosphatidylcholine (LysoPC) Mixtures

Catalog No.	Description	No. of Analytes
NSK-LPC	Lysophosphatidylcholine Mix	4
NSK-LPC-US	Lysophosphatidylcholine Mix (unlabeled)	4

Note: Please inquire for custom mix formulations.

Yeast Extract Kits

Catalog No.	Description	No. of FAs/Lipids
L-ISO1	Crude Lipid Yeast Extract (U- ¹³ C, 99%)	100s
L-ISO1-UNL	Crude Lipid Yeast Extract (unlabeled)	100s

Note: Each kit is supplied with a user manual (accessible via QR code), which provides a guide to preparation and processing possibilities as well as example results and references.

Chemical purity (CP) is 98% or greater, unless otherwise indicated.

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