



Vitamins and Their Metabolites

For Profiling and Quantitation



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).

Cambridge Isotope Laboratories, Inc. 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-9548	5-Methyltetrahydrofolic acid (prefolic A) (glutamic acid- ¹³ C ₅ , 99%) CP 95%	neat	1 mg, 5 mg
CLM-7321-N	5-Methyltetrahydrofolic acid, calcium salt (prefolic A) (glutamic acid- ¹³ C ₅ , 98%) CP 95%	neat	1 mg, 5 mg
CLM-7667	Vitamin B ₁ hydrochloride (thiamine hydrochloride) (4,5,4-methyl- ¹³ C ₃ , 99%) CP 97%	neat	5 mg
ULM-10004	Vitamin B ₁ hydrochloride (thiamine hydrochloride) (unlabeled)	neat	1 mg, 5 mg, 10 mg
V-053*	Vitamin B ₁ pyrophosphate (thiamine pyrophosphate) (unlabeled)	1 mg/mL in methanol:water (1:1)	1 mL
DLM-8741	Vitamin B ₁ pyrophosphate chloride (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 phosphate (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 , ethyl ester (nicotinic acid, ethyl ester) (2,4,5,6-D ₄ , 98%)	neat	5 g
CNLM-7694	Vitamin B ₅ , calcium salt·H ₂ O (calcium pantothenate·H ₂ O) (β-alanyl- ¹³ C ₃ , 99%; ¹⁵ N, 98%)	neat	10 mg
ULM-10003	Vitamin B ₅ , calcium salt·H ₂ O (calcium pantothenate·H ₂ O) (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

*Products listed with an asterisk are available only in the US, Switzerland, and Australia.

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.

Cambridge Isotope Laboratories, Inc.

North America: 1.800.322.1174 cilsales@isotope.com | International: +1.978.749.8000 intl@isotope.com | fax: 1.978.749.2768 | isotope.com

Catalog No.	Description	Concentration	Unit Size
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 phosphate (pyridoxal phosphate) (methyl-D ₃ , 97%) (mix of 5-,3-isomers) CP 97%	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 ₂ O	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
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
V-038*	Vitamin C (L-ascorbic acid) (unlabeled)	1 mg/mL in acetonitrile:water (1:1)	1 mL

Fat Soluble

Catalog No.	Description	Concentration	Unit Size
CLM-6126	β-Carotene (provitamin A) (10,10',11,11'- ¹³ C ₄ , 99%)	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'-D ₆ , 98%)	neat	Please inquire
DLM-2439	β-Carotene (provitamin A) (10,10',19,19,19,19',19',19'-D ₈ , 97%)	neat	Please inquire
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-11420	24R,25-Dihydroxyvitamin D ₃ (23,24,25,26,27- ¹³ C ₅ , 98%) CP 95%	neat	Please inquire
DLM-9404-C	24R,25-Dihydroxyvitamin D ₃ (26,26,26,27,27,27-D ₆ , 98%) CP 97%	100 µg/mL in ethanol	1 mL
DLM-9404	24R,25-Dihydroxyvitamin D ₃ (26,26,26,27,27,27-D ₆ , 98%) CP 97%	neat	1 mg
ULM-10610-C	24R,25-Dihydroxyvitamin D ₃ (unlabeled) CP 97%	100 µg/mL in ethanol	1 mL
ULM-10610	24R,25-Dihydroxyvitamin D ₃ (unlabeled) CP 97%	neat	1 mg
CLM-11418	3- <i>epi</i> -25-Hydroxyvitamin D ₂ (22,26,27- ¹³ C ₃ , 98%) CP 95%	50 µg/mL in ethanol	1 mL
CLM-11418	3- <i>epi</i> -25-Hydroxyvitamin D ₂ (22,26,27- ¹³ C ₃ , 98%) CP 95%	10 µg/mL in ethanol	1 mL
CLM-11419	3- <i>epi</i> -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- <i>epi</i> -25-Hydroxyvitamin D ₂ (20,21,22,26,27- ¹³ C ₅ , 98%) CP 95%	10 µg/mL in ethanol	1 mL

*Products listed with an asterisk are available only in the US, Switzerland, and Australia.

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	Concentration	Unit Size
ULM-9110-C	3- <i>epi</i> -25-Hydroxyvitamin D ₂ (unlabeled)	100 µg/mL in ethanol	1 mL
ULM-9110-B	3- <i>epi</i> -25-Hydroxyvitamin D ₂ (unlabeled)	50 µg/mL in ethanol	1 mL
ULM-9110	3- <i>epi</i> -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
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- <i>epi</i> -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- <i>epi</i> -25-Hydroxyvitamin D ₃ (6,19,19-D ₃ , 98%)	100 µg/mL in ethanol	1 mL
DLM-9111-B	3- <i>epi</i> -25-Hydroxyvitamin D ₃ (6,19,19-D ₃ , 98%)	50 µg/mL in ethanol	1 mL
DLM-9111	3- <i>epi</i> -25-Hydroxyvitamin D ₃ (6,19,19-D ₃ , 98%)	neat	1 mg
DLM-10912	3- <i>epi</i> -25-Hydroxyvitamin D ₃ (26,26,26,27,27,27-D ₆ , 96%) CP 95%	neat	Please inquire
ULM-9112-C	3- <i>epi</i> -25-Hydroxyvitamin D ₃ (unlabeled)	100 µg/mL in ethanol	1 mL
ULM-9112-B	3- <i>epi</i> -25-Hydroxyvitamin D ₃ (unlabeled)	50 µg/mL in ethanol	1 mL
ULM-9112	3- <i>epi</i> -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 monohydrate (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 monohydrate (26,26,26,27,27,27-D ₆ , 98%) CP 97%	50 µg/mL in ethanol	1 mL
DLM-7708	25-Hydroxyvitamin D ₃ monohydrate (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%) (50 ppm butylated hydroxytoluene – "BHT") CP 95%	neat	Please inquire
DLM-9305	Vitamin A (retinol) (10,19,19,19-D ₄ , 96%) (50 ppm butylated hydroxytoluene – "BHT") CP 95%	neat	1 mg, 5 mg
DLM-8113	Vitamin A (retinol) (19,19,19,20,20,20-D ₆ , 96%) (50 ppm butylated hydroxytoluene – "BHT") CP 95%	neat	1 mg, 5 mg, 10 mg
DLM-9306	Vitamin A (retinol) (10,14,19,19,19,20,20,20-D ₈ , 90%) (50 ppm butylated hydroxytoluene – "BHT") CP 95%	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.

Catalog No.	Description	Concentration	Unit Size
CLM-8870	Vitamin A acetate (retinol acetate) (12,13,14,20- ¹³ C ₄ , 99%)	neat	Please inquire
CLM-4831	Vitamin A acetate (retinol acetate) (8,9,10,12,13,14,19,20- ¹³ C ₈ , 99%)	neat	Please inquire
CLM-7277	Vitamin A acetate (retinol acetate) (8,9,10,11,12,13,14,15,19,20- ¹³ C ₁₀ , 99%)	neat	Please inquire
DLM-2244	Vitamin A acetate (retinol acetate) (10,19,19,19-D ₄ , 96%) (3-4% <i>cis</i>)	neat	Please inquire
DLM-3828	Vitamin A acetate (retinol acetate) (19,19,19,20,20,20-D ₆ , 96%) (3-4% <i>cis</i>)	neat	Please inquire
DLM-4203	Vitamin A acetate (retinol acetate) (10,14,19,19,19,20,20,20-D ₈ , 90%) (3-4% <i>cis</i>)	neat	Please inquire
CLM-320	Vitamin A aldehyde (retinal) (10- ¹³ C, 99%)	neat	Please inquire
CLM-325	Vitamin A aldehyde (retinal) (11- ¹³ C, 99%)	neat	Please inquire
CLM-326	Vitamin A aldehyde (retinal) (14- ¹³ C, 99%)	neat	Please inquire
CLM-327	Vitamin A aldehyde (retinal) (15- ¹³ C, 98%)	neat	Please inquire
CLM-10772	Vitamin A aldehyde (retinal) (12,13,14,20- ¹³ C ₄ , 96%)	neat	Please inquire
DLM-7719	Vitamin A aldehyde (retinal) (19,19,19,20,20,20-D ₆ , 96%)	neat	Please inquire
CLM-9395	Vitamin A palmitate (retinyl palmitate) (12,13,20- ¹³ C ₃ , 98%) (all <i>trans</i> , <4% <i>cis</i> , 50 ppm butylated hydroxytoluene – “BHT”)	neat	Please inquire
CLM-10838	Vitamin A palmitate (retinyl palmitate) (8,9,10,11,12,13,14,15,19,20- ¹³ C ₁₀ , 99%) (all <i>trans</i> , <4% <i>cis</i> , 50 ppm butylated hydroxytoluene – “BHT”)	neat	Please inquire
DLM-4902	Vitamin A palmitate (retinyl palmitate) (10,19,19,19-D ₄ , 96%) (all <i>trans</i> , <4% <i>cis</i> , 50 ppm butylated hydroxytoluene – “BHT”)	neat	1 mg, 5 mg
DLM-9309	Vitamin A palmitate (retinyl palmitate) (19,19,19,20,20,20-D ₆ , 97%) (all <i>trans</i> , <4% <i>cis</i> , 50 ppm butylated hydroxytoluene – “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
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 sulfate, sodium salt (ergocalciferol sulfate) (6,19,19-D ₃ , 98%) CP 97%	100 µg/mL in ethanol	1 mL
ULM-10477-C	Vitamin D ₂ sulfate, sodium salt (ergocalciferol sulfate) (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 sulfate, sodium salt (cholecalciferol sulfate) (6,19,19-D ₃ , 98%) CP 97%	100 µg/mL in ethanol	1 mL
ULM-10474-C	Vitamin D ₃ sulfate, sodium salt (cholecalciferol sulfate) (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) (trimethyl- ¹³ C ₃ phenyl, 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

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	Concentration	Unit Size
DLM-8847	Vitamin E acetate (α -tocopherol acetate) (acetyl-D ₃ , 98%)	neat	Please inquire
CDLM-11054-1.2	Vitamin E acetate (α -tocopherol acetate) (dimethyl- ¹³ C ₂ , acetyl- ¹³ C ₂ , 99%; dimethyl-D ₆ , 98%)	100 μ g/mL in methanol	1.2 mL
ULM-11055-1.2	Vitamin E acetate (α -tocopherol acetate) (unlabeled)	100 μ g/mL in methanol	1.2 mL
DLM-11047	Vitamin E succinate (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) (4 α ,5,6,7,8,8 α - 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
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-10382	Vitamin K ₂ 2,3-epoxide (menaquinone-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 2,3-epoxide (menaquinone-4 2,3-epoxide) (unlabeled) CP 95%	neat	1 mg
DLM-9132	Vitamin K ₃ (menadione) (D ₈ , 98%) CP 97%	neat	10 mg, 0.05 g
ULM-9133	Vitamin K ₃ (menadione) (unlabeled) CP 97%	neat	1 mg, 5 mg, 10 mg

Example References

Huang, J.; Cui, L.; Natarajan, M.; et al. **2022**. The ratio of nicotinic acid to nicotinamide as a microbial biomarker for assessing cell therapy product sterility. *Mol Ther Methods Clin Dev*, 25, 410-424.

Marshall, J.; Zhang, H.; Khazaei, H.; et al. **2021**. Targeted quantification of B vitamins using ultra-performance liquid chromatography-selected reaction monitoring mass spectrometry in faba bean seeds. *J Food Compos Anal*, 5, 103687-103697.

Zhang, H.; De Silva, D.; Dissanayaka, D.; et al. **2021**. Validated B vitamin quantification from lentils by selected reaction monitoring mass spectrometry. *Food Chem*, 359, 129810-129818.

Kazuki, T.; Ayuko, M.; Yoshinori, I.; et al. **2020**. Comparison of two reducing agents dithiothreitol and tris(3-hydroxypropyl)phosphine for *in vitro* kinetic assay of vitamin K epoxide reductase. *Vet Anim Sci*, 9, 100095-100099.

Lopez-Teros, V.; Ford, J.L.; Green, M.H.; et al. **2020**. The "super-child" approach is applied to estimate retinol kinetics and vitamin A total body stores in Mexican preschoolers. *J Nutr*, 150(6), 1644-1651.

Shetty, S.A.; Young, M.F.; Taneja, S.; et al. **2020**. Quantification of B-vitamins from different fresh milk samples using ultra-high performance liquid chromatography mass spectrometry/selected reaction monitoring methods. *J Chromatogr A*, 1609, 460452-460487.

Zhang, M.; Wu, Y.; Wang, F.; et al. **2019**. Improving long-term stability of retinol in dried blood spots and quantification of its levels via a novel LC-MS/MS method. *Anal Bioanal Chem*, 411(30), 8073-8080.

Gill, B.D.; Saldo, S.; Wood, J.E.; et al. **2018**. A rapid method for the determination of biotin and folic acid in liquid milk, milk powders, infant formula, and milk-based nutritional products by liquid chromatography-tandem mass spectrometry. *J AOAC Int*, 101(5), 1578-1583.

Oberson, J.M.; Campos-Giménez, E.; Rivière, J.; et al. **2018**. Application of supercritical fluid chromatography coupled to mass spectrometry to the determination of fat-soluble vitamins in selected food products. *J Chromatogr B Analyt Technol Biomed Life Sci*, 1086, 118-129.

Kumar, A.; Singh, M.P.; Rungta, T.; et al. **2018**. Ocular pharmacokinetics of 25-hydroxyvitamin D3 after weekly supplementation in rabbits using ultra performance liquid chromatography-tandem mass spectrometer. *Eur J Drug Metab Pharmacokinet*, 43(5), 607-613.

Paalme, T.; Vilbaste, A.; Kevai, K.; et al. **2017**. Assessment of bioavailable B vitamin content in food using *in vitro* digestibility assay and LC-MS SIDA. *Anal Bioanal Chem*, 409(27), 6475-6484.

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



Research products are distributed and sold worldwide via our extensive network.

CIL's 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

