

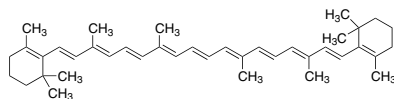
# Vitamin Related Products

## Vitamins and Derivatives

### Vitamin A and Derivatives

#### β-Carotene

Provitamin A; β,β-Carotene  
[7235-40-7] C<sub>40</sub>H<sub>56</sub>  
FW 536.87



The most important of the provitamins A.

#### ► synthetic, ≥93% (UV), powder

potency: ~1,600,000 units vitamin A per g

Packaged in serum vials.

solubility

DMSO	30 µg/mL
hexane	1.1 mg/mL
color	dark red to brown
store at:	-20°C

<a href="#">C9750-5G</a>	5 g
<a href="#">C9750-10G</a>	10 g
<a href="#">C9750-25G</a>	25 g

#### ► synthetic, ≥95% (HPLC), crystalline

solubility

H <sub>2</sub> O	insoluble
hexane	100 µg/mL, soluble
DMSO	30 µg/mL
ε <sub>450 nm</sub> , hexane	2450-2590 (vs. 2590, lit.)
ε <sub>478 nm</sub> , hexane	2160-2280 (vs. 2280, lit.)
α-carotene	essentially free
color	red to purple
store at:	-20°C

<a href="#">C4582-5MG</a>	5 mg
<a href="#">C4582-10MG</a>	10 mg
<a href="#">C4582-25MG</a>	25 mg

#### ► BioChemika, ≥97.0% (UV)

As a probe of lipid domains of reconstituted human plasma low-density lipoprotein<sup>1</sup>

solubility

chloroform	10 mg/mL, clear, dark orange-red
heavy metals	≤0.001%
mp	176 to 184 °C (dec.)

**Lit cited:** 1. G.C. Chen et al., *Biochemistry* **19**, 4706 (1980);

ship: dry ice store at: -20°C

<a href="#">22040-1G-F</a>	1 g
<a href="#">22040-5G-F</a>	5 g
<a href="#">22040-25G-F</a>	25 g

#### Carotene, mixed isomers from carrots

#### ► ≥95% (HPLC), powder

Inhibit radical initiated peroxidation *in vitro*

Approx. 2:1 β:α

color	red to brown
store at:	-20°C

<a href="#">C4646-5MG</a>	5 mg
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#### β-Cryptoxanthin

NEW

Caricaxanthin; Hydroxy-β-carotene

C<sub>40</sub>H<sub>56</sub>O FW 552.87

Carotenoid pigment with antioxidant functionality. *In vivo* conversion of β-cryptoxanthin to retinol can occur in humans.<sup>1</sup> Inhibits carcinogenic induced urinary bladder cancer in experimental animal models.<sup>2</sup>

**Lit cited:** 1. Yuan, J.-M. et al., Prediagnostic Level of Serum Retinol in Relation to Reduced Risk of Hepatocellular Carcinoma *J. Natl. Cancer Inst.* **98**, 482-490 (2006); 2. Miyazawa, K. et al., Dietary beta-cryptoxanthin inhibits N-butyl-N-(4-hydroxybutyl)nitrosamine-induced urinary bladder carcinogenesis in male ICR mice. *Oncol. Rep.* **17**, 297-304 (2007);

solubility

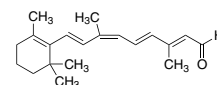
chloroform	1 mg/mL
store at:	-20°C

<a href="#">C6368-1MG</a>	1 mg
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#### 9-cis-Retinal

Vitamin A aldehyde

[514-85-2] C<sub>20</sub>H<sub>28</sub>O FW 284.44



mp 56 to 58 °C

ship: dry ice store at: -20°C

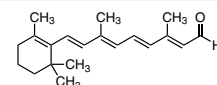
<a href="#">R5754-25MG</a>	25 mg
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<a href="#">R5754-100MG</a>	100 mg
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#### all trans-Retinal

Vitamin A aldehyde

[116-31-4] C<sub>20</sub>H<sub>28</sub>O FW 284.44



All-trans retinal is converted to retinoic acid *in vivo* by the action of retinal dehydrogenase. Retinoic acid is a ligand for both the retinoic acid receptor (RAR) and the retinoid X receptor (RXR) that act as transcription factors to regulate the growth and differentiation of normal and malignant cells. Retinal isomers are also chromophores that binds to opsins, a family of G-protein-linked transmembrane proteins, to form photosensitive receptors in visual and nonvisual systems. All-trans retinal is a potent photosensitizer.

#### ► powder, ≥98%

Sealed ampule.

color	yellow
ship: dry ice store at:	-20°C

<a href="#">R2500-25MG</a>	25 mg
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<a href="#">R2500-100MG</a>	100 mg
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<a href="#">R2500-500MG</a>	500 mg
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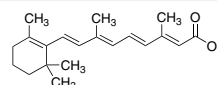
<a href="#">R2500-1G</a>	1 g
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#### Retinoic acid

ATRA; Vitamin A acid; all-trans-Retinoic acid;

Tretinoin

[302-79-4] C<sub>20</sub>H<sub>28</sub>O<sub>2</sub> FW 300.44



Ligand for both the retinoic acid receptor (RAR) and the retinoid X receptor (RXR); primes embryonic stem cells to become neurons.

mp 180 to 181 °C

#### ► ≥98% (HPLC), powder

Sealed ampule

color	yellow
store at:	-20°C

<a href="#">R2625-50MG</a>	50 mg
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<a href="#">R2625-100MG</a>	100 mg
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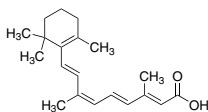
<a href="#">R2625-500MG</a>	500 mg
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<a href="#">R2625-1G</a>	1 g
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<a href="#">R2625-5G</a>	5 g
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### 9-*cis*-Retinoic acid

9-*cis*-Tretinoin  
[5300-03-8] C<sub>20</sub>H<sub>28</sub>O<sub>2</sub> FW 300.44



▶ **~98% (HPLC)**

Ligand for both the retinoic acid receptor (RAR) and the retinoid X receptor (RXR).

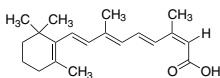
Sealed ampule

store at: -20°C

[R4643-1MG](#) 1 mg

### 13-*cis*-Retinoic acid

Isotretinoin  
[4759-48-2] C<sub>20</sub>H<sub>28</sub>O<sub>2</sub> FW 300.44



13-*cis*-Retinoic acid (RA) has anti-inflammatory and anti-tumor action. The action of RA is mediated through RAR-β and RAR-α receptors. RA attenuates iNOS expression and activity in cytokine-stimulated murine mesangial cells. It induces mitochondrial membrane permeability transition, observed as swelling and as a decrease in membrane potential, and stimulates the release of cytochrome c implicating mechanisms through the apoptosis pathway. These activities are reversed by EGTA and cyclosporin A. RA also increases MMP-1 protein expression partially via increased transcription.

mp..... 172 to 175 °C

▶ **≥98% (HPLC)**

store at: -20°C

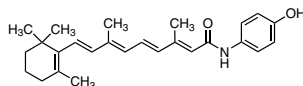
[R3255-100MG](#) 100 mg

[R3255-250MG](#) 250 mg

[R3255-500MG](#) 500 mg

### Retinoic acid p-hydroxyanilide

N-(4-Hydroxyphenyl)retinamide;  
Fenretinide; 4-HPR  
[65646-68-6] C<sub>26</sub>H<sub>33</sub>NO<sub>2</sub> FW 391.55



▶ **≥95%**

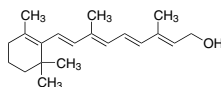
Vitamin A acid analogue with antiproliferative activity; induces apoptosis in malignant hemopoietic cell lines.

store at: -20°C

[H7779-5MG](#) 5 mg

### Retinol

Axerophthol; Vitamin A<sub>1</sub>; Vitamin A alcohol;  
all-*trans*-3,7-Dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-2,4,6,8-nonatetraen-1-ol; Vitamin A  
[68-26-8] C<sub>20</sub>H<sub>30</sub>O FW 286.45



mp..... 61 to 63 °C

▶ **synthetic, ≥95% (HPLC), crystalline**

Ligand for both the retinoic acid receptor (RAR) and the retinoid X receptor (RXR) that act as transcription factors to regulate the growth and differentiation of normal and malignant cells.

Light protecting glass vial.

ε<sub>326 nm</sub> isopropanol..... 2700 u/mg

color..... yellow to orange

ship: dry ice store at: -20°C

[R7632-25MG](#) 25 mg

[R7632-100MG](#) 100 mg

[R7632-250MG](#) 250 mg

[R7632-500MG](#) 500 mg

[R7632-1G](#) 1 g

▶ **BioChemika, ≥99.0% (HPLC), activity: ~3100 units/mg**

1 U corresponds to 1 international U acc. to Ph Eur II, 217 (1983)

mp..... 56 to 61 °C

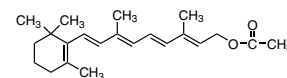
ship: dry ice store at: -20°C

[95144-250MG](#) 250 mg

[95144-1G](#) 1 g

### Retinyl acetate

Vitamin A acetate; Retinol acetate  
[127-47-9] C<sub>22</sub>H<sub>32</sub>O<sub>2</sub> FW 328.49



Activity based on HPLC comparison to USP standard.

mp..... 57 to 58 °C

▶ **synthetic, crystalline solid or supercooled liquid**

Packaged as a melt and may exist as a crystalline solid or a supercooled

viscous liquid

store at: -20°C

[R4632-1G](#) 1 g

[R4632-5G](#) 5 g

[R4632-25G](#) 25 g

[R4632-100G](#) 100 g

▶ **synthetic, matrix dispersion, activity: ~500,000 USP units/g**

Dispersion in cornstarch-gelatin matrix. Oil dispersible

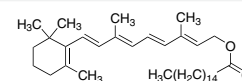
store at: -20°C

[R3250-10G](#) 10 g

[R3250-100G](#) 100 g

### Retinyl palmitate

Vitamin A palmitate;  
all-*trans*-Retinol palmitate  
[79-81-2] C<sub>36</sub>H<sub>60</sub>O<sub>2</sub> FW 524.86



Review: Vitamin A metabolism.<sup>1</sup>

Sealed ampule.

**Lit cited:** 1. Goodman, DeW.S., *Fed. Proc.* **39**, 2716 (1980);

▶ **potency: ~1,600,000 USP units per g**

oil or solid

store at: 2-8°C

[R1512-5G](#) 5 g

[R1512-25G](#) 25 g

▶ **Sigma Grade, activity: ~1,800,000 USP units/g, oil**

Oil at room temperature

store at: 2-8°C

[R3375-1G](#) 1 g

[R3375-5G](#) 5 g

[R3375-100G](#) 100 g

### Vitamin B and Derivatives

#### Acipimox

**NEW**

2-Carboxy-5-methylpyrazine 4-oxide; 5-Methylpyrazinecarboxylic acid 4-oxide  
[51037-30-0] C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O<sub>3</sub> FW 154.12

Niacin-derived, vasodilator studied for its lipid-lowering effect.<sup>1</sup>

mp..... 177 to 180 °C

**Lit cited:** 1. Lovisolo, P. P. et al, Pharmacological profile of a new antilipolytic agent: 5-methylpyrazine-2-carboxylic acid 4-oxide (acipimox) II — Antilipolytic and blood lipid lowering activity. *Pharmacol. Res. Commun.* **13**, 163-174 (1981);

store at: 2-8°C

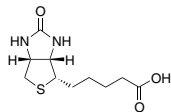
[A7856-1G](#) 1 g

[A7856-5G](#) 5 g



**Biotin**

Vitamin H; D-Biotin; Bios II; Vitamin B7; Coenzyme R  
[58-85-5] C<sub>10</sub>H<sub>16</sub>N<sub>2</sub>O<sub>3</sub>S FW 244.31



mp ..... 231 to 233 °C

## ▶ ≥99% (TLC), lyophilized powder

May be used to elute proteins from avidin/streptavidin resins.

store at: 2-8°C

<a href="#">B4501-100MG</a>	100 mg
<a href="#">B4501-500MG</a>	500 mg
<a href="#">B4501-1G</a>	1 g
<a href="#">B4501-5G</a>	5 g
<a href="#">B4501-10G</a>	10 g
<a href="#">B4501-25G</a>	25 g

**L-Carnitine hydrochloride**

(-)-β-Hydroxy-γ-(trimethylammonio)butyrate; Vitamin B<sub>1</sub>  
[6645-46-1] (CH<sub>3</sub>)<sub>3</sub>N<sup>+</sup>CH<sub>2</sub>CH(OH)CH<sub>2</sub>CO<sub>2</sub>H · Cl<sup>-</sup> FW 197.66

Carnitine is a quaternary amine that occurs naturally in most mammalian tissue. It is present in relatively high concentrations in skeletal muscle and heart where it is involved in regulating energy metabolism. It shifts glucose metabolism from glycolysis to glycogen storage and enhances the transport of long chain fatty acids into the mitochondria where they are oxidized for energy production.

## ▶ synthetic, ~98%

<a href="#">C0283-10MG</a>	10 mg
<a href="#">C0283-1G</a>	1 g
<a href="#">C0283-5G</a>	5 g
<a href="#">C0283-25G</a>	25 g
<a href="#">C0283-100G</a>	100 g

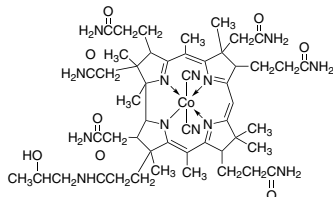
## ▶ ~98%, from equine muscle

store at: -20°C

<a href="#">C7518-10MG</a>	10 mg
<a href="#">C7518-25MG</a>	25 mg
<a href="#">C7518-100MG</a>	100 mg
<a href="#">C7518-500MG</a>	500 mg

**Dicyanocobinamide**

Factor B; Etiocobalamin;  
Cobinamide dicyanide  
[27792-36-5] C<sub>30</sub>H<sub>12</sub>CoN<sub>13</sub>O<sub>8</sub>  
FW 1042.12



## ▶ ≥93%

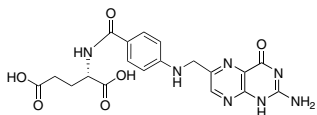
For use in determining non-intrinsic factor (R protein) in intrinsic factor preparations.

vitamin B<sub>12</sub> ..... ≤0.1%  
store at: -20°C

<a href="#">C3021-10MG</a>	10 mg
<a href="#">C3021-50MG</a>	50 mg

**Folic acid**

Vitamin M; PteGlu;  
Pteroyl-L-glutamic acid  
[59-30-3] C<sub>19</sub>H<sub>19</sub>N<sub>7</sub>O<sub>6</sub> FW 441.40



## ▶ ≥97%

Enzyme cofactor essential for the synthesis, methylation, and repair of DNA. Folic acid supplements may reduce colorectal cancer risk.

<a href="#">F7876-1G</a>	1 g
<a href="#">F7876-10G</a>	10 g
<a href="#">F7876-25G</a>	25 g
<a href="#">F7876-100G</a>	100 g

**▼ Hydroxocobalamin**

Vitamin B<sub>12a</sub>

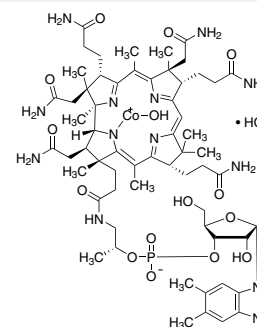
**Hydroxocobalamin acetate salt**

[13422-51-0] C<sub>66</sub>H<sub>91</sub>CoN<sub>13</sub>O<sub>16</sub>P FW 1388.39  
store at: 2-8°C

<a href="#">H8017-250MG</a>	250 mg
<a href="#">H8017-1G</a>	1 g

**Hydroxocobalamin hydrochloride**

[58288-50-9] C<sub>62</sub>H<sub>89</sub>CoN<sub>13</sub>O<sub>15</sub>P · HCl  
FW 1382.82



## ▶ ≥98%

store at: 2-8°C

<a href="#">H7126-100MG</a>	100 mg
<a href="#">H7126-1G</a>	1 g

**Hydroxocobalamin ▲****Methylcobalamin**

[13422-55-4] C<sub>63</sub>H<sub>91</sub>CoN<sub>13</sub>O<sub>14</sub>P FW 1344.38  
store at: -20°C

<a href="#">M9756-25MG</a>	25 mg
<a href="#">M9756-100MG</a>	100 mg
<a href="#">M9756-250MG</a>	250 mg
<a href="#">M9756-1G</a>	1 g

**Nicotinamide**

Vitamin PP; Pyridine-3-carboxylic acid amide;  
Niacinamide; Nicotinic acid amide; Vitamin B<sub>3</sub>  
[98-92-0] C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O FW 122.12



mp ..... 128 to 131 °C

## ▶ ≥98% (TLC), powder

Used as a cofactor for certain enzymes

color .....	white
<a href="#">N3376-100G</a>	100 g
<a href="#">N3376-500G</a>	500 g
<a href="#">N3376-1KG</a>	1 kg

## ▶ BioChemika, ≥99.5% (HPLC)

<a href="#">72340-100G</a>	100 g
<a href="#">72340-250G</a>	250 g
<a href="#">72340-1KG</a>	1 kg

### Nicotinic acid

Vitamin B<sub>3</sub>; Niacin; Pyridine-3-carboxylic acid;  
3-Picolinic acid; Pellagra preventive factor  
[59-67-6] C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub> FW 123.11



mp ..... 236 to 239 °C

▶ ≥98%

Decreases hepatic production of very-low density lipoproteins and apolipoprotein B.

<a href="#">N4126-5G</a>	5 g
<a href="#">N4126-100G</a>	100 g
<a href="#">N4126-500G</a>	500 g
<a href="#">N4126-1KG</a>	1 kg

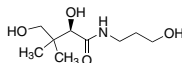
▶ **BioChemika**, ≥99.5% (HPLC)

water ..... ≤0.2%  
mp ..... 234 to 238 °C

<a href="#">72309-100G</a>	100 g
<a href="#">72309-500G</a>	500 g

### D-Panthenol

(R)-(+)-2,4-Dihydroxy-N-(3-hydroxypropyl)-3,3-dimethylbutyramide; Dexpanthenol; Provitamin B;  
(R)-2,4-Dihydroxy-3,3-dimethylbutyric 3-hydroxypropylamide; D-Pantothenyl alcohol  
[81-13-0] C<sub>9</sub>H<sub>17</sub>NO<sub>4</sub> FW 205.25



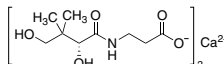
▶ ≥98% (perchloric acid titration), ≥98% (TLC)

store at: -20°C

<a href="#">P2375-10G</a>	10 g
<a href="#">P2375-100G</a>	100 g

### D-Pantothenic acid hemicalcium salt

Calcium D-pantothenate; (R)-(+)-N-(2,4-Dihydroxy-3,3-dimethyl-1-oxobutyl)-β-alanine hemicalcium salt; Vitamin B<sub>5</sub>  
[137-08-6]  
HOCH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>CH(OH)CONHCH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub> · 1/2Ca  
FW 238.27



Precursor in the biosynthesis of coenzyme A.

Due to the unstable, hygroscopic nature of the free acid, the calcium salt is employed.

▶ ≥98% (TLC)

store at: 2-8°C

<a href="#">P2250-5G</a>	5 g
<a href="#">P2250-25G</a>	25 g
<a href="#">P2250-100G</a>	100 g
<a href="#">P2250-500G</a>	500 g

### ▼ Pyridoxine

#### Pyridoxine

Pyridoxol; Vitamin B<sub>6</sub>  
[65-23-6] C<sub>8</sub>H<sub>11</sub>NO<sub>3</sub> FW 169.18

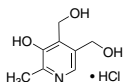
mp ..... 159 to 162 °C

▶ ≥98%

<a href="#">P5669-5G</a>	5 g
<a href="#">P5669-25G</a>	25 g

#### Pyridoxine hydrochloride

PN HCl; Adermine hydrochloride;  
Pyridoxol hydrochloride; Vitamin B<sub>6</sub> hydrochloride  
[58-56-0] C<sub>8</sub>H<sub>11</sub>NO<sub>3</sub> · HCl FW 205.64



mp ..... 214 to 215 °C

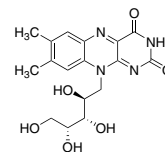
▶ ≥98% (HPLC)

<a href="#">P9755-25G</a>	25 g
<a href="#">P9755-100G</a>	100 g

### Pyridoxine ▲

### (-)-Riboflavin

Lactoflavin; Vitamin G; Vitamin B<sub>2</sub>  
[83-88-5] C<sub>17</sub>H<sub>20</sub>N<sub>4</sub>O<sub>6</sub> FW 376.36



mp ..... 290 °C (dec.)

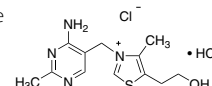
▶ ≥98%

Enzyme cofactor

<a href="#">R4500-5G</a>	5 g
<a href="#">R4500-25G</a>	25 g
<a href="#">R4500-100G</a>	100 g
<a href="#">R4500-500G</a>	500 g
<a href="#">R4500-1KG</a>	1 kg

### Thiamine hydrochloride

Aneurine hydrochloride; Vitamin B<sub>1</sub> hydrochloride  
[67-03-8] C<sub>12</sub>H<sub>17</sub>ClN<sub>4</sub>OS · HCl FW 337.27



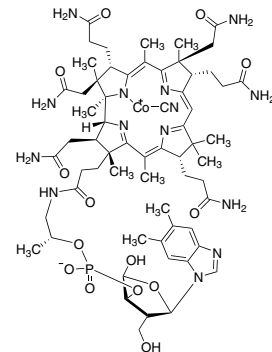
mp ..... 250 °C (dec.)

▶ reagent grade, ≥99% (TLC)

<a href="#">T4625-5G</a>	5 g
<a href="#">T4625-10G</a>	10 g
<a href="#">T4625-25G</a>	25 g
<a href="#">T4625-100G</a>	100 g
<a href="#">T4625-250G</a>	250 g
<a href="#">T4625-1KG</a>	1 kg

### Vitamin B<sub>12</sub>

CN-Cbl; α-(5,6-Dimethylbenzimidazolyl) cyanocobamide; Cyanocobalamin;  
Cyanocob(III)alamin  
[68-19-9] C<sub>63</sub>H<sub>88</sub>CoN<sub>14</sub>O<sub>14</sub>P FW 1355.37



▶ ~99%

store at: 2-8°C

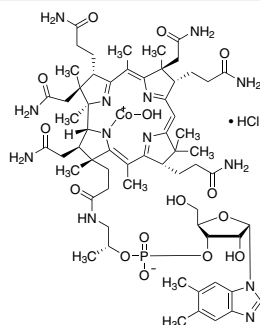
<a href="#">V2876-100MG</a>	100 mg
<a href="#">V2876-250MG</a>	250 mg
<a href="#">V2876-500MG</a>	500 mg
<a href="#">V2876-1G</a>	1 g
<a href="#">V2876-5G</a>	5 g
<a href="#">V2876-25G</a>	25 g





### Vitamin B<sub>12a</sub>

OH-Cbl HCl; α-(5,6-Dimethylbenzimidazolyl)hydroxocobamide hydrochloride; Hydroxocobalamine hydrochloride; Aquocobalamin chloride [78091-12-0] C<sub>62</sub>H<sub>90</sub>ClCoN<sub>13</sub>O<sub>15</sub>P FW 1382.82



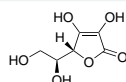
► **BioChemika**, ≥96% (UV)

Review<sup>1</sup>  
solubility  
methanol ..... 10 mg/mL at 20 °C, clear, dark red  
**Lit cited:** 1. S. Fukui, F. Korte and M. Goto, eds., *Antibiotics, Vitamins and Hormones* Stuttgart 101 (1977);  
store at: 2-8°C  
[95200-250MG](#) 250 mg  
[95200-1G](#) 1 g

### Vitamin C and Derivatives

#### L-Ascorbic acid

Antiscorbutic factor; L-Threoscorbic acid; Vitamin C [50-81-7] C<sub>6</sub>H<sub>8</sub>O<sub>6</sub> FW 176.12



mp ..... 190 to 194 °C (dec.)  
► **reagent grade, crystalline, ~325 mesh**  
Antioxidant.  
color ..... white to slightly yellow  
[A7506-25G](#) 25 g  
[A7506-100G](#) 100 g  
[A7506-500G](#) 500 g  
[A7506-1KG](#) 1 kg  
[A7506-5KG](#) 5 kg

► **BioUltra**, ≥99.5% (RT)

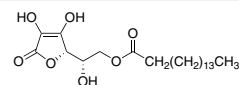
Denaturation of proteins<sup>1</sup>; Dimeric association of *E. coli* RNA polymerase α subunits, studied by cleavage of single cysteine α subunits conjugated to Fe-BABE<sup>2</sup>.

solubility  
H<sub>2</sub>O ..... 1 M at 20 °C, clear, colorless  
absorption <sup>1M</sup><sub>306 nm</sub>, H<sub>2</sub>O ..... cut-off  
insoluble matter ..... passes filter test  
Al ..... ≤5 mg/kg K ..... ≤50 mg/kg  
As ..... ≤0.1 mg/kg Li ..... ≤5 mg/kg  
Ba ..... ≤5 mg/kg Mg ..... ≤5 mg/kg  
Bi ..... ≤5 mg/kg Mn ..... ≤5 mg/kg  
Ca ..... ≤10 mg/kg Mo ..... ≤5 mg/kg  
Cd ..... ≤5 mg/kg Na ..... ≤50 mg/kg  
Co ..... ≤5 mg/kg Ni ..... ≤5 mg/kg  
Cr ..... ≤5 mg/kg Pb ..... ≤5 mg/kg  
Cu ..... ≤5 mg/kg Sr ..... ≤5 mg/kg  
Fe ..... ≤5 mg/kg Zn ..... ≤5 mg/kg

**Lit cited:** 1. F.C. Brown et al., *Neurochem. Res.* **3**, 357 (1978); 2. R. Miyake et al., *Biochemistry* **37**, 1344 (1998);  
[95209-50G](#) 50 g  
[95209-250G](#) 250 g  
[95209-1KG](#) 1 kg

### 6-O-Palmitoyl-L-ascorbic acid

L-Ascorbyl palmitate; Ascorbic acid 6-palmitate [137-66-6] C<sub>22</sub>H<sub>38</sub>O<sub>7</sub> FW 414.53

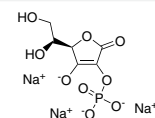


► **BioChemika**, ≥99.0% (RT)

mp ..... 113 to 116 °C  
[76183-25G](#) 25 g  
[76183-100G](#) 100 g

### 2-Phospho-L-ascorbic acid trisodium salt

L-Ascorbic acid 2-phosphate trisodium salt; Sodium L-ascorbyl-2-phosphate [66170-10-3] C<sub>6</sub>H<sub>6</sub>Na<sub>3</sub>O<sub>8</sub>P · xH<sub>2</sub>O FW 322.05 (Anh)

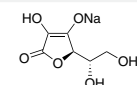


► **BioChemika**, ≥95.0% (HPLC)

water ..... ≤7.5%  
[49752-10G](#) 10 g  
[49752-100G](#) 100 g

### (+)-Sodium L-ascorbate

L-(+)-Ascorbic acid sodium salt; Vitamin C sodium salt [134-03-2] C<sub>6</sub>H<sub>7</sub>NaO<sub>6</sub> FW 198.11



mp ..... 220 °C (dec.)  
► **crystalline, ≥98%**  
color ..... white to off-white  
[A7631-25G](#) 25 g  
[A7631-100G](#) 100 g  
[A7631-500G](#) 500 g  
[A7631-1KG](#) 1 kg

► **BioChemika**, ≥99.0% (NT)

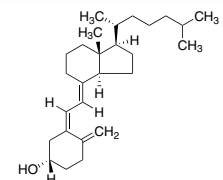
Starting material for the synthesis of chiral building blocks<sup>1,2</sup>; L-Ascorbic acid, review<sup>4</sup>

**Lit cited:** 1. J.A.J.M. Vekemans et al., *Rec. Trav. Chim.* **104**, 266 (1987); 2. J.A. Vekemans et al., *J. Org. Chem.* **52**, 1093 (1987); 3. A. Tanaka, K. Yamashita, *Synthesis* 570 (1987); 4. H. Omura and K. Yamafuji, F. Korte and M. Goto, eds., *Antibiotics, Vitamins and Hormones* Stuttgart 115 (1977);  
[11140-50G](#) 50 g  
[11140-250G](#) 250 g  
[11140-1KG](#) 1 kg

### Vitamin D and Derivatives

#### Cholecalciferol

Activated 7-dehydrocholesterol;  
7-Dehydrocholesterol activated; Calcioi;  
(+)-Vitamin D<sub>3</sub>  
[67-97-0] C<sub>27</sub>H<sub>44</sub>O FW 384.64

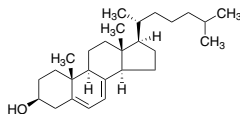


Vitamin D acts through a receptor that modulates the proliferation and differentiation of both normal and cancer cells.

mp ..... 83 to 86 °C  
► **≥98% (HPLC)**  
store at: 2-8°C  
[C9756-1G](#) 1 g  
[C9756-5G](#) 5 g

### 7-Dehydrocholesterol

(-)-7-Dehydrocholesterol; Provitamin D<sub>3</sub>;  
3β-Hydroxy-5,7-cholestadiene;  
5,7-Cholestadien-3β-ol  
[434-16-2] C<sub>27</sub>H<sub>44</sub>O FW 384.64



Down-regulates cholesterol biosynthesis in cultured Smith-Lemi-Opitz syndrome skin fibroblasts.

mp ..... 148 to 152 °C

► **BioChemika, ≥98.0% (HPLC)**

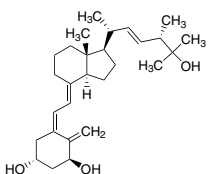
mp ..... 142 to 151 °C

store at: -20°C

[30800-5G-F](#) 5 g

### 1α,25-Dihydroxyvitamin D<sub>2</sub>

1α,25-Dihydroxycalciferol  
[60133-18-8] C<sub>28</sub>H<sub>44</sub>O<sub>3</sub> FW 428.65



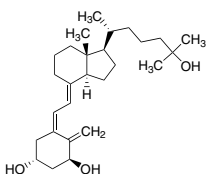
► **BioChemika, ≥97.0% (HPLC)**

store at: -20°C

[17944-1MG-F](#) 1 mg

### 1α,25-Dihydroxyvitamin D<sub>3</sub>

Calcitriol; 1α,25-Dihydroxycholecalciferol  
[32222-06-3] C<sub>27</sub>H<sub>44</sub>O<sub>3</sub> FW 416.64



Biologically active form of vitamin D<sub>3</sub> in calcium absorption and deposition.

► **≥99% (TLC)**

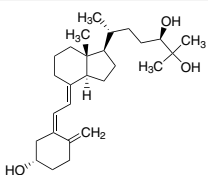
store at: -20°C

[D1530-10UG](#) 10 µg

[D1530-1MG](#) 0.1 mg

### (24R)-24,25-Dihydroxyvitamin D<sub>3</sub>

(24R)-24,25-Dihydroxycholecalciferol; Secalciferol  
[55721-11-4] C<sub>27</sub>H<sub>44</sub>O<sub>3</sub> FW 416.64



► **BioChemika, ≥99.0% (HPLC)**

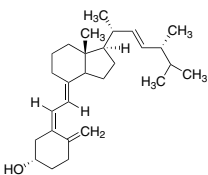
store at: -20°C

[17943-100UG](#) 100 µg

[17943-1MG](#) 1 mg

### Ergocalciferol

Irradiated ergosterol; Ergosterol irradiated;  
Ercalcio; Calciferol; Vitamin D<sub>2</sub>  
[50-14-6] C<sub>28</sub>H<sub>44</sub>O FW 396.65



mp ..... 114 to 118 °C

► **activity: 40,000,000 USP units/g**

1 USP unit = 1 I.U.

Sealed ampule.

store at: 2-8°C

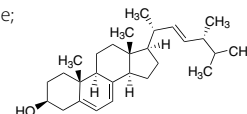
[E5750-1G](#) 1 g

[E5750-5G](#) 5 g

[E5750-25G](#) 25 g

### Ergosterol

Provitamin D<sub>2</sub>; 3β-Hydroxy-5,7,22-ergostatriene;  
5,7,22-Ergostatrien-3β-ol  
[57-87-4] C<sub>28</sub>H<sub>44</sub>O FW 396.65



mp ..... 156 to 158 °C

► **≥75%**

store at: 2-8°C

[E6510-5G](#) 5 g

[E6510-10G](#) 10 g

[E6510-25G](#) 25 g

► **≥95.0% (HPLC)**

water ..... ~3%

mp ..... 160 to 163 °C

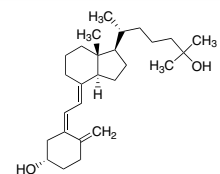
store at: 2-8°C

[45480-10G-F](#) 10 g

[45480-50G-F](#) 50 g

### 25-Hydroxycholecalciferol

25-Hydroxyvitamin D<sub>3</sub>  
[19356-17-3] C<sub>27</sub>H<sub>44</sub>O<sub>2</sub> FW 400.64



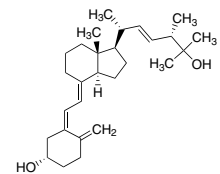
► **≥98% (HPLC)**

store at: -20°C

[H4014-1MG](#) 1 mg

### 25-Hydroxyvitamin D<sub>2</sub>

25-Hydroxycalciferol; 25-Hydroxyergocalciferol  
[21343-40-8] C<sub>28</sub>H<sub>44</sub>O<sub>2</sub> FW 412.65



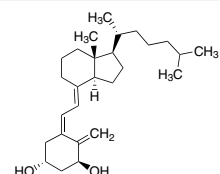
► **BioChemika, ≥98.0% (HPLC)**

store at: -20°C

[17937-1MG](#) 1 mg

### 1α-Hydroxyvitamin D<sub>3</sub>

1α-Hydroxycholecalciferol; Alfacalcidol  
[41294-56-8] C<sub>27</sub>H<sub>44</sub>O<sub>2</sub> FW 400.64



Synthetic vitamin D<sub>3</sub> analog that is metabolized to 1,25-dihydroxycholecalciferol. Inhibits bone resorption and stimulates bone formation.<sup>1</sup> Suppresses parathyroid hormone secretion by bovine parathyroid cells.<sup>2</sup>

**Lit cited:** 1. Shiraiishi, A., et al., *J. Bone Miner Res.* **15**, 770-9 (2000); 2. Brown, A.J., et al., *Nephrol. Dial. Transplant.* **21**, 644-50 (2006);

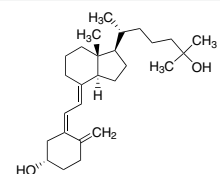
► **BioChemika, ≥97.0% (HPLC)**

store at: -20°C

[17946-1MG](#) 1 mg

### 25-Hydroxyvitamin D<sub>3</sub> monohydrate

25-Hydroxycholecalciferol  
[63283-36-3] C<sub>27</sub>H<sub>44</sub>O<sub>2</sub> · H<sub>2</sub>O FW 418.65



► **BioChemika, ≥99.0% (HPLC)**

store at: -20°C

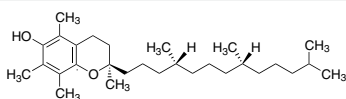
[17938-1MG](#) 1 mg



## Vitamin E and Derivatives

### (+)- $\alpha$ -Tocopherol

5,7,8-Trimethyltolcol;  
2,5,7,8-Tetramethyl-2-(4',8',12'-  
trimethyltridecyl)-6-chromanol;  
Vitamin E; D- $\alpha$ -Tocopherol  
[59-02-9] C<sub>29</sub>H<sub>50</sub>O<sub>2</sub> FW 430.71



bp ..... 200-220 °C/0.1 mmHg

#### ▶ from vegetable oil, activity: ~1000 IU/g

Mixed isomers

Approx. 670 mg D- $\alpha$ -tocopherol per gram. The non- $\alpha$  content is 5-20 mg/g;  
remainder is soybean oil.

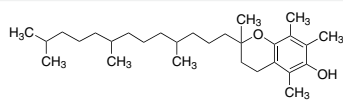
Packaged under argon in a sealed ampule.

color ..... clear yellow to red  
store at: -20°C

<a href="#">T3634-10G</a>	10 g
<a href="#">T3634-25G</a>	25 g
<a href="#">T3634-100G</a>	100 g

### (±)- $\alpha$ -Tocopherol

Vitamin E; DL-all-*rac*- $\alpha$ -Tocopherol  
[10191-41-0] C<sub>29</sub>H<sub>50</sub>O<sub>2</sub>  
FW 430.71



#### ▶ synthetic, ≥96% (HPLC)

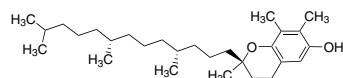
Antioxidant; shown to protect cells from oxidative stress.

store at: 2-8°C

<a href="#">T3251-5G</a>	5 g
<a href="#">T3251-25G</a>	25 g
<a href="#">T3251-100G</a>	100 g
<a href="#">T3251-500G</a>	500 g

### (+)- $\gamma$ -Tocopherol

7,8-Dimethyltolcol;  
(R,R,R)- $\gamma$ -Tocopherol  
[54-28-4] C<sub>28</sub>H<sub>48</sub>O<sub>2</sub> FW 416.68



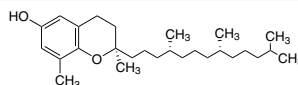
#### ▶ ≥96% (HPLC)

store at: 2-8°C

<a href="#">T1782-5MG</a>	5 mg
<a href="#">T1782-25MG</a>	25 mg
<a href="#">T1782-100MG</a>	100 mg

### (+)- $\delta$ -Tocopherol

[119-13-1] C<sub>27</sub>H<sub>46</sub>O<sub>2</sub> FW 402.65

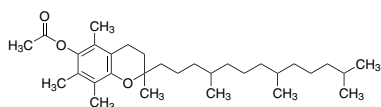


#### ▶ ~90%

<a href="#">T2028-25G</a>	25 g
<a href="#">T2028-100G</a>	100 g

### DL- $\alpha$ -Tocopherol acetate

all-*rac*- $\alpha$ -Tocopheryl acetate;  
Vitamin E acetate  
[7695-91-2] C<sub>31</sub>H<sub>52</sub>O<sub>3</sub>  
FW 472.74



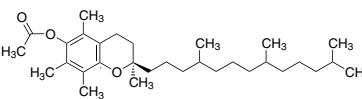
#### ▶ ≥96% (HPLC)

store at: 2-8°C

<a href="#">T3376-5G</a>	5 g
<a href="#">T3376-25G</a>	25 g
<a href="#">T3376-100G</a>	100 g

### (+)- $\alpha$ -Tocopherol acetate

Vitamin E acetate  
[58-95-7] C<sub>31</sub>H<sub>52</sub>O<sub>3</sub> FW 472.74



Synthesized from natural  $\alpha$ -tocopherol

#### ▶ oil or semi-solid, activity: ~1360 IU/g, semisynthetic

color ..... yellow  
mp ..... ~25 °C  
store at: 2-8°C

<a href="#">T3001-10G</a>	10 g
<a href="#">T3001-25G</a>	25 g
<a href="#">T3001-100G</a>	100 g

### (±)- $\alpha$ -Tocopherol phosphate disodium salt

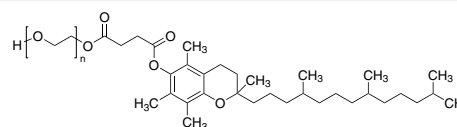
[60934-46-5] C<sub>29</sub>H<sub>49</sub>O<sub>3</sub>PNa<sub>2</sub> FW 554.65

store at: 2-8°C

<a href="#">T2020-250MG</a>	250 mg
<a href="#">T2020-1G</a>	1 g

### D- $\alpha$ -Tocopherol polyethylene glycol 1000 succinate

D- $\alpha$ -Tocopherol  
polyethylene  
glycol succinate;  
Vitamin E-TPGS;  
Vitamin E poly-  
ethylene glycol  
succinate; TPGS  
[9002-96-4]



solubility

H<sub>2</sub>O ..... 1 g/10 mL, clear to faintly turbid, colorless to faintly yellow

mp ..... >36 °C  
store at: 2-8°C

<a href="#">S7668-5G</a>	5 g
<a href="#">S7668-25G</a>	25 g
<a href="#">S7668-100G</a>	100 g

### D- $\alpha$ -Tocotrienol

3,4-Dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyl-3,7,11-tridecatrienyl)-2H-1-benzopyran-6-ol

[1721-51-3] C<sub>29</sub>H<sub>44</sub>O<sub>2</sub> FW 424.66

Tocotrienols are widely utilized for their strong antioxidant properties. The various isoforms of tocotrienols differ in their methyl substitution in the chromanol head.<sup>1</sup>  $\alpha$ -tocotrienol demonstrates neuroprotective properties by blocking glutamate-induced cell death in neuronal cells.<sup>2</sup>

**Lit cited:** 1. Yoshida, Y., et al., *Chem. Phys. Lipids* **123**, 63-75 (2003); 2. Khanna, S., et al., *Stroke* **36**, e144-e152 (2005);

#### ▶ from palm oil, ≥75% (GC)

store at: -20°C

<a href="#">T0452-10MG</a>	10 mg
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### D- $\delta$ -Tocotrienol

(R-(E,E))-3,4-Dihydro-2,8-dimethyl-2-(4,8,12-trimethyl-3,7,11-tridecatrienyl)-2H-1-benzopyran-6-ol

[25612-59-3] C<sub>27</sub>H<sub>40</sub>O<sub>2</sub> FW 396.61

Tocotrienols are widely utilized for their strong antioxidant properties. The various isoforms of tocotrienols differ in their methyl substitution in the chromanol head.<sup>1</sup>  $\delta$ -tocotrienol, effectively blocks cleavage of SREBPs, ultimately decreasing the amount of cholesterol synthesized in the liver.<sup>2</sup>

**Lit cited:** 1. Yoshida, Y., et al., *Chem. Phys. Lipids* **123**, 63-75 (2003); 2. Song, B., et al., *J. Biol. Chem.* **281**, 25054-25061 (2006);

#### ▶ from palm oil, ≥65% (GC)

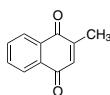
store at: -20°C

<a href="#">T0577-10MG</a>	10 mg
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## Vitamin K and Derivatives

### Menadione

2-Methyl-1,4-naphthoquinone; Vitamin K<sub>3</sub>  
[58-27-5] C<sub>11</sub>H<sub>8</sub>O<sub>2</sub> FW 172.18



mp.....105 to 107 °C

#### ► crystalline

Free-radical generator

solubility

oil.....soluble

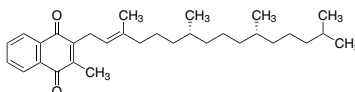
color.....yellow

[M5625-25G](#) 25 g

[M5625-100G](#) 100 g

### Vitamin K<sub>1</sub>

Phylloquinone; 3-Phytymena-  
dione; 2-Methyl-3-phytyl-1,4-  
naphthoquinone; Vitamin K<sub>1(20)</sub>  
[84-80-0] C<sub>31</sub>H<sub>46</sub>O<sub>2</sub> FW 450.70



mp.....-20 °C

#### ► viscous liquid

store at: 2-8°C

[V3501-1G](#) 1 g

[V3501-5G](#) 5 g

[V3501-10G](#) 10 g

#### ► BioChemika, ≥99.0% (HPLC)

Review: Vitamin K and γ-carboxyglutamate biosynthesis<sup>1</sup>; Metabolic functions and mechanism of action<sup>2</sup>

cis-isomer.....≤20% (isomeric purity)

2-methyl-1,4-naphthoquinone..... passes test

**Lit cited:** 1. R.E. Olson, J.W. Suttie, *Vitamins and Hormones* **35**, 59 (1977); 2. L. Uotila, *Scand. J. Clin. Lab. Invest. (Suppl)* **50**, 109 (1990);

store at: 2-8°C

[95271-250MG](#) 250 mg

[95271-1G](#) 1 g

### Vitamin K<sub>2</sub>

Menatetrenone;

Menaquinone 4

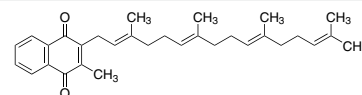
[863-61-6] C<sub>31</sub>H<sub>46</sub>O<sub>2</sub>

FW 444.65

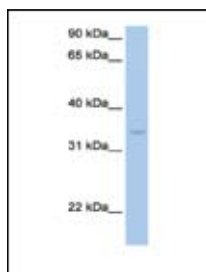
store at: -20°C

[V9378-250MG](#) 250 mg

[V9378-1G](#) 1 g



## Antibodies for Vitamin Function and Research

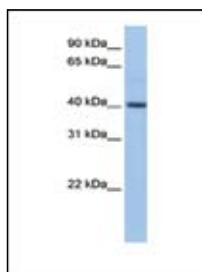


#### Immunoblotting

Cell Type: HepG2 (Cat. No. [AV53615](#)).

#### Lanes

1. Antibody dilution (concentration) 1 µg/mL in cell type HepG2

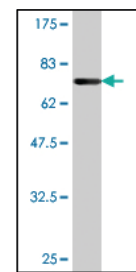


#### Immunoblotting

Cell Type: fetal liver (Cat. No. [AV53616](#)).

#### Lanes

1. Antibody dilution (concentration) 1 µg/mL in cell type fetal liver



#### Immunoblotting

Monoclonal Anti-TCN1, Cat. No. [WH0006947M12](#)

used at the antibody concentration: 1 µg/mL. Specific band of ~72.6 kDa using immunogen protein lysate.

## Vitamin B Related Antibodies

Product Name	Host	Clone No	Form	Gene Symbol	Species Reactivity	Application	Prestige Antibody	Cat. No.
Monoclonal Anti-Folic Acid	mouse	VP-52	ascites fluid	-	-	ELISA (i)	-	<a href="#">F5766-2ML</a> <a href="#">F5766-5ML</a>
Monoclonal Anti-5MTH Folic Acid	mouse	FA-24	ascites fluid	-	-	ELISA (i)	-	<a href="#">M5028-2ML</a> <a href="#">M5028-5ML</a>
Anti-PDXK (AB1) <b>NEW</b>	rabbit	-	affinity isolated antibody	PDXK, human	human	WB	-	<a href="#">AV53615-50UG</a>
Anti-PDXK (AB2) <b>NEW</b>	rabbit	-	affinity isolated antibody	PDXK, human	human	WB	-	<a href="#">AV53616-50UG</a>
Monoclonal Anti-TCN1 <b>NEW</b>	mouse	3F10	purified immunoglobulin	TCN1, human	human	ELISA (i) WB	-	<a href="#">WH0006947M12-100UG</a>

