# MATREYA

Lipids, Biochemicals, and Standards for Life Science Research

2013 - 2014

## About Matreya LLC

- Matreya strives to develop, manufacture and deliver products of the highest value to our customers.
- Quality will always be the best achievable by state-of-the-art techniques, typically greater than 98%
- We strive for rapid delivery. 95+% of our products are shipped within 24 hours of receipt of an order.
- Within the area of sphingolipids and glycolipids, we have earned a reputation as the preferred problem solver and technology leader.
- When you demand quality and consistency, you may rely on Matreya lipids.

## Matreya Products for Biochemistry Research.

We offer one of the widest selection of ceramides for intracellular signaling research available. We stock antibodies to glycosphingolipids as well as inhibitors of enzymes involved in glycosphingolipid metabolism.

Our products provide the valuable tools for the study of cell membrane and its structure, growth regulators in the cellular metabolism, and intracellular mediators.

We are able to make our products better and better with the latest technology in Chromatography, Mass Spectrometry, and NMR techniques.

We are proud to offer our products as a valuable tool for your life science research needs.

## Matreya Products for Microbiology Research.

Matreya stocks many unusual fatty acid standards produced by bacteria that are useful for culture characterization.

## Matreya Products for the Food and Agriculture Industries.

Many of Matreya's fatty acid products have been industry standards for many years. The acids and their methyl esters are used as standards in analysis and quality control.

## Custom Preparations.

Our experience in chemical synthesis and the extraction and purification of natural products allows us to produce custom preparations with the same high quality and purity as the products listed in the catalog. Depending on the complexity of the molecule, delivery will be 4 to 12 weeks after receipt of an order, usually less than 6 weeks.

**If you can't find a product in the catalog, please check the INDEX, where we also try to list common synonyms for our products.**

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**Tables**



***All chemicals listed in this catalog are for investigational use only. Chemicals are not for human consumption or to be used in food or food additives. Matreya assumes no liability for any use of these chemicals by the end user. We believe the information in this catalog, offered in good faith, is accurate.***

Limited Warranty: All Matreya Products, except those specifically exempted, are warranted (for 30 days) to be free of defects in materials and workmanship, if properly stored. Any replacements required as a result of such defects will be made without charge provided that such defective products are returned with a written explanation. Please request a Returned Goods Authorization before returning products under this warranty.

## Technical Service

Our technical service department may be contacted by telephone at 800.342.3595, or by e-mail at techservice@matreya.com.

## Natural Products

Some of our glycolipids are extracted from natural sources. These products have a normal heterogeneity in their lipid components, particularly in the fatty acids. Variations include carbon chain length as well as the presence or absence of 2-hydroxy fatty acids. Products based on sphingosine may contain longer chain sphingoid bases as well as chains with multiple double bonds. This heterogeneity may result in additional spots showing on TLC plates or multiple peaks in LC analyses. We have listed the typical fatty acid compositions of our natural products in the appendix.

## Storage

Catalog items in unopened containers are stable for at least one year when stored under the conditions indicated in the catalog listing. Items containing unsaturated fatty acids are subject to oxidation and should be stored in a solution of organic solvents or under argon. Glycolipids and phospholipids should not be stored in aqueous solutions due to potential hydrolysis.

## Sphingolipid Structures and Pathways

In a clear and straightforward manner, this wall chart indicates the structures and relationships between most commonly discussed sphingolipids. A one-page thumbnail version of the chart is shown on page 98. Full size copies (approximately 35 x 26 inches) are available on request to customer service.

## Package Weight

Unless otherwise specified, the package will contain at least the indicated amount and usually slightly more. The user is cautioned to always measure the required amount from the container.

## Matreya's Mission

Matreya is committed to manufacturing high purity lipids to be used as research standards in the biotechnology and pharmaceutical areas. These lipids will be offered world-wide at a fair market price, and at a profit sufficient to assure company growth, for the benefit of its customers, employees, share holders, and community. Matreya will also be committed to fast delivery, excellent technical backup, new product development, safety, and environmentally friendly.

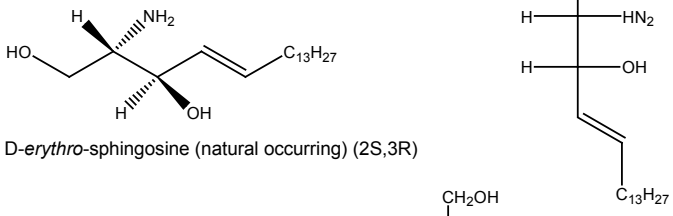
# Sphingoid Bases, Sphingolipids and Glycosphingolipids

Sphingoid bases such as sphingosine are the characteristic structural unit of the sphingolipids . The bases are long chain aliphatic amines, containing two or three hydroxyl groups, and typically a *trans*-double bond at C4. In animal tissues, the most abundant base is sphingosine with a C18 aliphatic chain containing a double bond in position 4. The saturated analogue is dihydrosphingosine or sphinganine. In plants, the common long chain base is the 4 hydroxy saturated base phytosphingosine.

Sphingolipids are widely distributed in animal tissues, particularly cell membranes. Sphingoid bases linked to fatty acids via an amide bond at C2 are ceramides and are present in trace amounts in most tissues. Glycosphingolipids (ceramides having various mono- and oligosaccharides on the OH group at C1) are neutral glycosphingolipids (i.e., cerebrosides and globosides). Those with sialic acid derivatized sugars are acidic glycolipids (i.e., gangliosides). They are amphiphilic and can be solubilized in buffers via sonication and micelle formation.

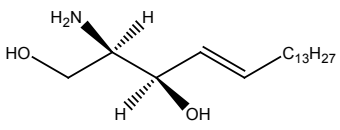
Gangliosides are present in substantial amounts in nerve cell membranes, and together with globosides are found in the membranes of white and red blood cells. These plus the glycosphingolipids of the lacto- and neolacto-series are involved in cell recognition (e.g. blood group determinants). Glycolipid expression on the surface of cells determines their antigenicity as well as their status, i.e. differentiated vs. undifferentiated (embryonic), normal vs. malignant, etc. (1). The ganglioside GM1 stimulates nerve growth (2,3) and has been reported to have a curative effect on experimental Parkinsonism (4). For an overview, see (5). Gangliosides are also being investigated as potential anti-tumor vaccines (6). Glycosphingolipids are also essential for the correct functioning of cell surface receptors (7). Matreya is your best source for many sphingolipids. Most of Matreya's sphingosines and ceramides are fully synthetic and as such 98%+ pure. Others, particularly the glycosphingolipids are highly purified natural products (98%+), and can be used either as standards or biochemical reagents without further purification.

Through total synthesis, all four isomers of sphingosine are available as well as a number of sphingosines with other than 18 carbons and a number of ceramides (for details in using ceramides in cell culture see Hauser et al. [9]). Fluorescent labeled ceramides, glycosphingolipids and sphingomyelins are also available for study. D. N. Brindley and his group have been exploring the interaction of ceramides, sphingosine and sphingosine 1-phosphate in regulating DNA synthesis and phospholipase D activity. **See Literature References on page 99.**

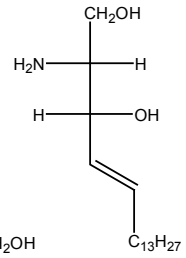


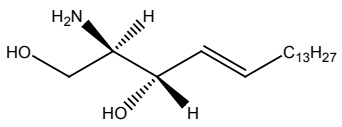

D-*erythro*-sphingosine (natural occurring) (2S,3R)



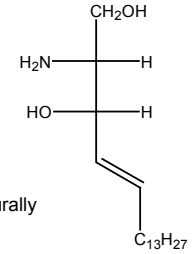



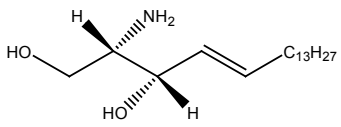

D-*threo*-sphingosine (2R,3R)



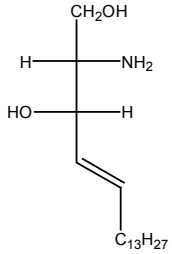




L-*erythro*-sphingosine (enantiomer of naturally occurring sphingosine) (2R,3S)



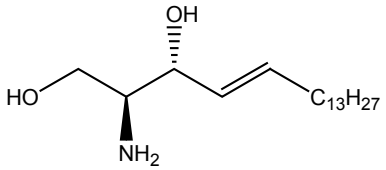




L-*threo*-sphingosine (2S,3S)



## Sphingosines

### Synthetic Sphingosines with C18 Sphingoid Base




Catalog number 1802

**1802** **D-*erythro*-Sphingosine** **25 mg** **77.00**
Sphingosine with C18 chain $C_{18}H_{37}NO_2$ **CAS#:** 123-78-4

**Source:** synthetic **Mol. Wt.:** 299 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform, ethanol, methanol, DMSO **Storage:** –20°C

Selective inhibitor of phosphokinase C

**1806** **L-*threo*-Sphingosine** **10 mg** **232.00**
L-*threo*-Sphingosine, C18 chain $C_{18}H_{37}NO_2$

**Source:** synthetic **Mol. Wt.:** 299 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform, ethanol, methanol, DMSO **Storage:** –20°C

**1826** **L-*erythro*-Sphingosine** **5 mg** **262.00**
L-*erythro*-Sphingosine, C18 chain $C_{18}H_{37}NO_2$ **CAS#:** 6036-75-5

**Source:** synthetic **Mol. Wt.:** 299 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform, ethanol, methanol, DMSO **Storage:** –20°C

**1827** **D-*threo*-Sphingosine** **5 mg** **262.00**
D-*threo*-Sphingosine, C18 chain $C_{18}H_{37}NO_2$ **CAS#:** 6036-85-7

**Source:** synthetic **Mol. Wt.:** 299 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform, ethanol, methanol, DMSO **Storage:** –20°C

### Synthetic Sphingosines with Sphingoid Bases other than C18

Varying chain lengths allow the study of translocation effects of sphingosines and ceramides into cells.

**1833** **D-*erythro*-C14-Sphingosine** **5 mg** **232.00**
Sphingosine with C14 chain $C_{14}H_{29}NO_2$

**Source:** synthetic **Mol. Wt.:** 243 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform, ethanol, methanol, DMSO **Storage:** –20°C

**1634** ***omega*-N-NBD-D-*erythro*-C14-Sphingosine** **1 mg** **522.00**
*omega*-N-(7-nitrobenzo-2-oxa-1,3-diazol-4-yl)-(2S)-amino-tetradec-(4E)-ene-(1,3R)-diol $C_{20}H_{31}N_5O_5$

**Source:** synthetic **Mol. Wt.:** 422 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** methanol, ethanol, chloroform/methanol, 9:1 **Storage:** –20°C

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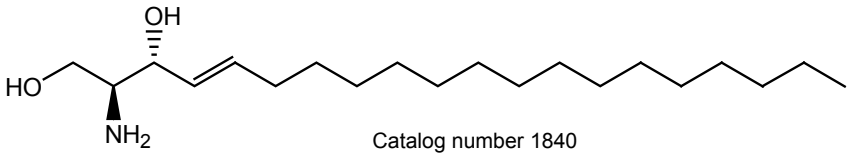
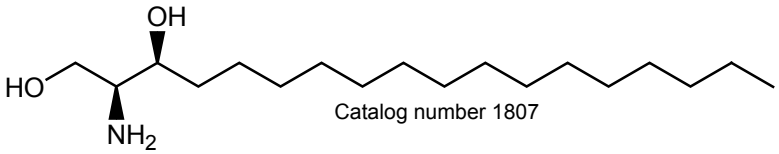
|---|---|---|---|
| **1835** | **D-*erythro*-C16-Sphingosine**<br>Sphingosine with C16 chain $C_{16}H_{33}NO_2$<br><br>**Source:** synthetic **Mol. Wt.:** 271 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | **5 mg** | **232.00** |
| **1838** | **D-*erythro*-C12-Sphingosine**<br>Sphingosine with C12 chain $C_{12}H_{25}NO_2$ CAS#: 6918-49-6<br><br>**Source:** synthetic **Mol. Wt.:** 215 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | **5 mg** | **232.00** |
| **1840** | **D-*erythro*-C20-Sphingosine**<br>Sphingosine with C20 chain $C_{20}H_{41}NO_2$<br><br>**Source:** synthetic **Mol. Wt.:** 328 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol, DMSO **Storage:** –20°C | **5 mg** | **227.00** |



Catalog number 1840

## Synthetic Dihydrosphingosines

D,L-*threo*- Dihydrosphingosine has also been found to be a significant inhibitor of sphingosine kinase (8). The D,L-*erythro*-isomer has been used as an inactive control. We offer all four isomers in pure form making detailed studies possible. Safingol, the L-*threo*-isomer is a potent inhibitor of PKC and as such is capable of reversing multi-drug resistance in cancer cells (9). **See Literature References on page 99.**



Catalog number 1807

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|---|---|---|---|
| **1807** | **L-*threo*-Dihydrosphingosine (Safingol)** | **5 mg** | **174.00** |
| **1807-025** | L-*threo*-Sphinganine, C18 chain $C_{18}H_{39}NO_2$ **CAS#:** 15639-50-6 | **25 mg** | **556.00** |
| | **Source:** synthetic **Mol. Wt.:** 301 **Melting Point (°C):** 103-114 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol, DMSO **Storage:** –20°C<br><br>Inhibitor of PKC | | |
| **1831** | **D-*erythro*-Dihydrosphingosine** | **25 mg** | **144.00** |
| **1831-1** | D-*erythro*-Sphinganine, C18 chain $C_{18}H_{39}NO_2$ **CAS#:** 764-22-7 | **1 g** | **2,494.00** |
| | **Source:** synthetic **Mol. Wt.:** 301 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol, DMSO **Storage:** –20°C<br><br>Inhibitor of $PLA_2$ and PLD | | |

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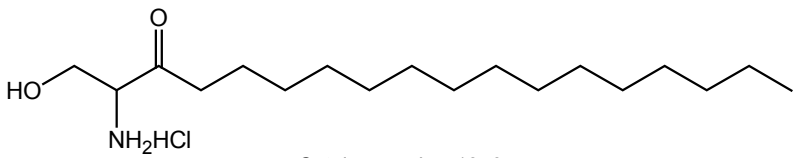
| **1846** | **L-*erythro*-Dihydrosphingosine**<br>L-*erythro*-Sphinganine, C18 chain $C_{18}H_{39}NO_2$<br><br>**Source:** synthetic **Mol. Wt.:** 301 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol, DMSO **Storage:** –20°C | **1 mg** | **111.00** |
| **1851** | **D-*threo*-Dihydrosphingosine**<br>D-*threo*-Sphinganine, C18 chain $C_{18}H_{39}NO_2$ **CAS#:** 6036-86-8<br><br>**Source:** synthetic **Mol. Wt.:** 301 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol, DMSO **Storage:** –20°C | **1 mg** | **169.00** |
| **1324** | **D,L-*erythro*-Dihydrosphingosine**<br>D,L-*erythro*-Sphinganine, C18 chain $C_{18}H_{39}NO_2$ **CAS#:** 3102-56-5<br><br>**Source:** synthetic **Mol. Wt.:** 301 **Purity:** erythro 77%; threo 23% by TLC, GC<br>**Appearance:** solid **Solubility:** chloroform, ethanol, methanol, DMSO<br>**Storage:** –20°C<br><br>Inhibitor of sphingosine kinase | **25 mg** | **103.00** |
| **1326** | **D,L-C16-Dihydrosphingosine (mixed isomers)**<br>D,L-Sphinganine with C16 chain $C_{16}H_{35}NO_2$<br><br>**Source:** synthetic **Mol. Wt.:** 273 **Purity:** *erythro* 90%, *threo* 10% by TLC, GC<br>**Appearance:** solid **Solubility:** chloroform, ethanol, methanol, DMSO<br>**Storage:** –20°C | **10 mg** | **111.00** |
| **1845** | **D-*erythro*-C20-Dihydrosphingosine**<br>D-*erythro*-Sphinganine, C20 chain $C_{20}H_{43}NO_2$ **CAS#:** 24006-62-0<br><br>**Source:** synthetic **Mol. Wt.:** 330 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** warm ethanol, chloroform/methanol, 5:1 **Storage:** –20°C | **5 mg** | **144.00** |
| **1839** | **D,L-*erythro*-C20-Dihydrosphingosine**<br>D,L-*erythro*-Sphinganine, C20 chain $C_{20}H_{43}NO_2$<br><br>**Source:** synthetic **Mol. Wt.:** 330 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** warm ethanol, chloroform/methanol, 5:1 **Storage:** –20°C | **10 mg** | **103.00** |

## 3-Keto-Dihydrosphingosines




Catalog number 1876

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|---|---|---|---|
| **1876** | **3-keto-Dihydrosphingosine•HCl**<br>3-keto-Sphinganine hydrochloride $C_{18}H_{37}NO_2$•HCl **CAS#:** 18944-28-0<br><br>**Source:** synthetic **Mol. Wt.:** 299 + HCl **Purity:** 98+% by TLC, GC<br>**Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | **10 mg** | **405.00** |

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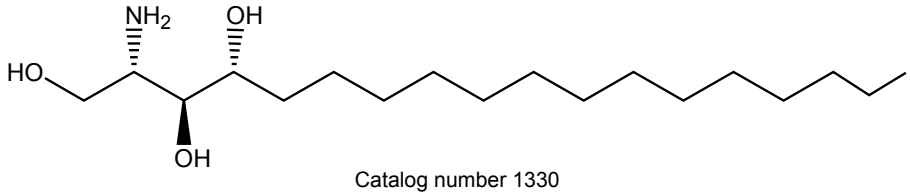
|---|---|---|---|
| **1891** | **3-keto-C6-Dihydrosphingosine•HCl**<br>1-Hydroxy-2-amino-3-keto-hexane • HCl $C_6H_{13}NO_2$ •HCl<br><br>**Source:** synthetic **Mol. Wt.:** 168 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** ethanol, methanol, DI water **Storage:** –20°C | **10 mg** | **405.00** |
| **1892** | **3-keto-C8-Dihydrosphingosine•HCl**<br>1-Hydroxy-2-amino-3-keto-octane • HCl $C_8H_{17}NO_2$ •HCl<br><br>**Source:** synthetic **Mol. Wt.:** 196 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol, DI water **Storage:** –20°C | **10 mg** | **405.00** |
| **1893** | **3-keto-C12-Dihydrosphingosine•HCl**<br>1-Hydroxy-2-amino-3-keto-dodecane • HCl $C_{12}H_{25}NO_2$ •HCl<br><br>**Source:** synthetic **Mol. Wt.:** 252 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | **10 mg** | **405.00** |

## Phytosphingosines




Catalog number 1330

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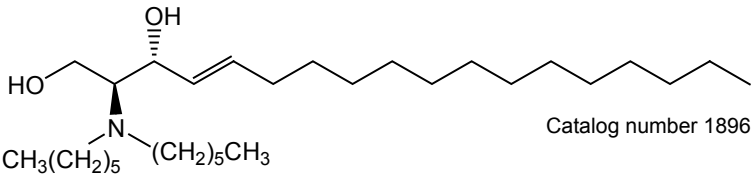
|---|---|---|---|
| **1330** | **Phytosphingosine** | **50 mg** | **111.00** |
| **1330-1** | 4-Hydroxysphinganine $C_{18}H_{39}NO_3$ **CAS#** 554-62-1 | **1 g** | **752.00** |

**Source:** natural, yeast (Pichia ciferri) **Mol. Wt.:** 318 **Purity:** 98+% by TLC, GC
**Appearance:** solid **Solubility:** ethanol, methanol, chloroform/methanol, 2:1 (warm)
**Storage:** –20°C

## Other Sphingosine Derivatives and Precursors

| | | | |
|---|---|---|---|
| **1320** | **N,N-Dimethyl-D-*erythro*-sphingosine**<br>$C_{20}H_{41}NO_2$ **CAS#:** 119567-63-4<br><br>**Source:** synthetic **Mol. Wt.:** 328 **Purity:** 98+% by TLC **Appearance:** liquid<br>**Solvent:** isopropanol **Solubility:** chloroform, ethanol, isopropanol, methanol<br>**Storage:** –20°C<br><br>Inhibitor of phosphokinase C | **5 mg/ml, 1 ml** | **103.00** |




Catalog number 1896

**1896** **N,N-Dihexyl-D-*erythro*-sphingosine** **5 mg/ml, 1 ml** **160.00**
Sphingosine with tertiary amine group $C_{30}H_{61}NO_2$

**Source:** synthetic **Mol. Wt.:** 468 **Purity:** 95% by TLC **Appearance:** liquid
**Solvent:** ethanol **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

**1805** **N-Palmitoyl serinol** **10 mg** **126.00**
$C_{19}H_{39}NO_3$ **CAS#:** 126127-31-9

**Source:** synthetic **Mol. Wt.:** 329 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform, methanol, ethanol **Storage:** –20°C

Sphingosine precursor

## Ceramides

Ceramide is a fatty acid amide of sphingosine. It may be formed by dehydrogenation of dihydroceramide; by hydrolysis of sphingomyelin or glycosphingolipids; or by acylation of free sphingosine. Ceramide functions as a precursor in the synthesis of sphingomyelin (by an exchange reaction with phosphatidylcholine and phosphatidylethanolamine); of glycosphingolipids (by glycosylation with UDP-hexose); and of free sphingosine and fatty acid by hydrolysis. The sphingosine can be phosphorylated by a kinase to form sphingosine-1-phosphate, which may undergo further hydrolysis or cleavage.

Control of sphingolipid metabolism maintains vital balance points in cell physiology. Two of ceramide's metabolites, sphingosine-1-phosphate and glucosylceramide, produce cell proliferation. Sphingosine-1-phosphate is also a highly active regulator of angiogenesis, vascular maturation, cardiac development, immunity, and directed cell movement. Sphingosine, the free base, is a potent inhibitor of protein kinase C and is involved in intracellaular calcium regulation.

Sphingolipid enzymes seem to be particularly active in cancers, so modifying their activities by exogenous action may provide alternatives to chemical therapies. These enzymes are controlled by many known agents, such as 1,25-dihdroxy-vitamin $D_3$, tumor necrosis factor-$\alpha$, nerve growth factor, interleukin 1, endothelial growth factor, glutathione, arachidonic acid, dexamethasone, many anticancer drugs, therapeutic radiation, and activators of the FAS receptor.

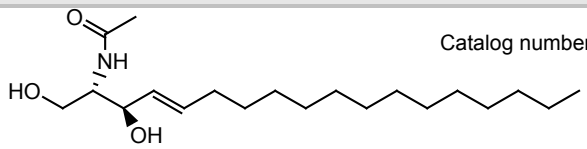
Ceramide exerts numerous biological effects, including induction of cell maturation, cell cycle arrest, terminal cell differentiation, cell senescence, and cell death. Other effects include producing reactive oxygen in mitochondria (followed by apoptosis) and stimulating phosphorylation of certain proteins (especially mitogen activated protein). It also stimulates some protein phosphatases (especially protein phosphatase 2A). Thus ceramide is an important controller of protein activity

It is apparent from these relationships that ceramide exists at the crux of several enzyme reaction cycles and that experiments involving sphingolipid function call for control of all of the cycles and their branch-off points. Matreya is the major supplier of these lipids, which can be used as standards for analysis of tissues (a much needed part of modern research) and identification of major sphingolipids.

Ceramides with short side chains have been shown to enter easily into cells where they are biologically active. Ceramides with longer side chains, however, also enter cells if dissolved in dodecane-isopropanol first. Fluorescent labeled ceramides and sphingomyelin made from fluorescent labeled acids instead of plain fatty acids are also available for the study of the localization and metabolism of sphingolipids in the cell. Matreya now offers all four isomers of C2, C4, C6 and C18 ceramides. The corresponding dihydroceramides are being used as inactive controls

In three major reviews, Radin (10-12) has discussed the biochemistry and chemistry of ceramide and outlined many potential approaches to cancer therapy using ceramides and related compounds as generators of apoptosis.
**See Literature References on page 99.**

## Synthetic Ceramides Derived from C18-Sphingosine




Catalog number 1901

| | | | |
|---|---|---|---|
| **1901** | **N-Acetyl-D-*erythro*-sphingosine** | **10 mg** | **103.00** |
| **1901-100** | N-C2:0-D-*erythro*-Ceramide $C_{20}H_{39}NO_3$ **CAS#:** 3102-57-6 | **100 mg** | **667.00** |
| | **Source:** synthetic **Mol. Wt.:** 342 **Purity:** 98+ by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol, DMSO (up to 5 mg/ml) **Storage:** –20°C | | |
| **1829** | **N-Acetyl-L-*threo*-sphingosine** | **1 mg** | **118.00** |
| | N-C2:0-L-*threo*-Ceramide $C_{20}H_{39}NO_3$ | | |
| | **Source:** synthetic **Mol. Wt.:** 342 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol, DMSO, DMF (up to 5 mg/ml)<br>**Storage:** –20°C | | |
| **1847** | **N-Acetyl-L-*erythro*-sphingosine** | **1 mg** | **103.00** |
| | N-C2:0-L-*erythro*-Ceramide $C_{20}H_{39}NO_3$ | | |
| | **Source:** synthetic **Mol. Wt.:** 342 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol, DMSO, DMF (up to 5 mg/ml)<br>**Storage:** –20°C | | |
| **1900** | **N-Hexanoyl-D-*erythro*-sphingosine** | **10 mg** | **103.00** |
| **1900-100** | N-C6:0-D-*erythro*-Ceramide $C_{24}H_{47}NO_3$ **CAS#:** 124753-97-5 | **100 mg** | **667.00** |
| | **Source:** synthetic **Mol. Wt.:** 398 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, DMSO (up to 5 mg/ml) **Storage:** –20°C | | |
| **1828** | **N-Hexanoyl-L-*threo*-sphingosine** | **1 mg** | **135.00** |
| | N-C6:0-L-*threo*-Ceramide $C_{24}H_{47}NO_3$ | | |
| | **Source:** synthetic **Mol. Wt.:** 398 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, DMSO, DMF (up to 5mg/ml) **Storage:** –20°C | | |
| **1848** | **N-Hexanoyl-L-*erythro*-sphingosine** | **1 mg** | **118.00** |
| | N-C6:0-L-*erythro*-Ceramide $C_{24}H_{47}NO_3$ | | |
| | **Source:** synthetic **Mol. Wt.:** 398 **Purity:** 98+% by TLC; GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, DMSO, DMF (up to 5mg/ml) **Storage:** –20°C | | |

| | | | |
|---|---|---|---|
| **1809** | **N-Hexanoyl-D-*threo*-sphingosine**<br>N-C6:0-D-*threo*-Ceramide $C_{24}H_{47}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 398 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, methanol, DMSO (up to 5 mg/ml) **Storage:** –20°C | **1 mg** | **135.00** |
| **1903**<br>**1903-100** | **N-Octanoyl-D-*erythro*-sphingosine**<br>N-C8:0-D-*erythro*-Ceramide $C_{26}H_{51}NO_3$ **CAS#:** 74713-59-0<br><br>**Source:** synthetic **Mol. Wt.:** 426 **Purity:** 98+ by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol, DMSO (up to 5 mg/ml) **Storage:** –20°C | **10 mg**<br>**100 mg** | **103.00**<br>**667.00** |
| **1830** | **N-Octanoyl-L-*threo*-sphingosine**<br>N-C8:0-L-*threo*-Ceramide $C_{26}H_{51}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 426 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, DMSO, DMF (up to 5 mg/ml) **Storage:** –20°C | **1 mg** | **135.00** |
| **1810** | **N-Octanoyl-D-*threo*-sphingosine**<br>N-C8:0-D-*threo*-Ceramide $C_{26}H_{51}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 426 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, DMSO, DMF (up to 5mg/ml) **Storage:** –20°C | **1 mg** | **135.00** |
| **1333**<br>**1333-100** | **N-Decanoyl-D-*erythro*-sphingosine**<br>N-C10:0-D-*erythro*-Ceramide $C_{28}H_{55}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 454 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol, DMSO (up to 5mg/ml) **Storage:** –20°C | **10 mg**<br>**100 mg** | **89.00**<br>**667.00** |
| **2037**<br>**2037-100** | **N-Pentadecanoyl-D-*erythro*-sphingosine**<br>N-C15:0-D-*erythro*-Ceramide $C_{33}H_{65}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 524 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, warm ethanol, warm methanol **Storage:** –20°C | **10 mg**<br>**100 mg** | **99.00**<br>**637.00** |
| **1915**<br>**1915-100** | **N-Hexadecanoyl-D-*erythro*-sphingosine**<br>N-C16:0-D-*erythro*-Ceramide; N-Palmitoyl-D-*erythro*-sphingosine<br>$C_{34}H_{67}NO_3$ **CAS#:** 24696-26-2<br><br>**Source:** synthetic **Mol. Wt.:** 538 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, warm ethanol, warm methanol **Storage:** –20°C | **10 mg**<br>**100 mg** | **103.00**<br>**637.00** |
| **2038**<br>**2038-100** | **N-Heptadecanoyl-D-*erythro*-sphingosine**<br>N-C17:0-D-*erythro*-Ceramide $C_{35}H_{69}NO_3$ **CAS#:** 67492-16-4<br><br>**Source:** synthetic **Mol. Wt.:** 552 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, warm ethanol, warm methanol **Storage:** –20°C | **10 mg**<br>**100 mg** | **99.00**<br>**637.00** |

| | | | |
|---|---|---|---|
| **1832** | **N-Octadecanoyl-D-*erythro*-sphingosine** | **10 mg** | **93.00** |
| **1832-100** | N-C18:0-D-*erythro*-Ceramide; N-Stearoyl-D-*erythro*-sphingosine<br>$C_{36}H_{71}NO_3$ **CAS#:** 2304-81-6<br><br>**Source:** synthetic **Mol. Wt.:** 566 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, hot ethanol, chloroform/methanol, 2:1 (up to 5mg/ml)<br>**Storage:** –20°C | **100 mg** | **637.00** |
| **2039** | **N-Nonadecanoyl-D-*erythro*-sphingosine** | **10 mg** | **111.00** |
| **2039-100** | N-C19:0-D-*erythro*-Ceramide $C_{37}H_{73}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 580 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, warm ethanol, warm methanol **Storage:** –20°C | **100 mg** | **695.00** |
| **1843** | **N-Octadecanoyl-L-*threo*-sphingosine**<br>N-C18:0-L-*threo*-Ceramide; N-Stearoyl-L-*threo*-sphingosine $C_{36}H_{71}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 566 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, DMSO, DMF (up to 5mg/ml) **Storage:** –20°C | **1 mg** | **118.00** |
| **1850** | **N-Octadecanoyl-L-*erythro*-sphingosine**<br>N-C18:0-L-*erythro*-Ceramide; N-Stearoyl-L-*erythro*-sphingosine $C_{36}H_{71}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 566 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, DMSO, DMF (up tp 5mg/ml) **Storage:** –20°C | **1 mg** | **118.00** |
| **1855** | **N-Octadecanoyl-D-*threo*-sphingosine**<br>N-C18:0-D-*threo*-Ceramide; N-Stearoyl-D-*threo*-sphingosine $C_{36}H_{71}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 566 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, DMSO, DMF (up to 5mg/ml) **Storage:** –20°C | **1 mg** | **135.00** |
| **1916** | **N-Tetracosanoyl-D-*erythro*-sphingosine** | **5 mg** | **111.00** |
| **1916-25** | N-C24:0-D-*erythro*-Ceramide; N-Lignoceroyl-D-*erythro*-sphingosine<br>$C_{42}H_{83}NO_3$ **CAS#:** 34435-05-7<br><br>**Source:** synthetic **Mol. Wt.:** 650 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform **Storage:** –20°C | **25 mg** | **475.00** |
| **1930** | **N-Tetracosenoyl-D-*erythro*-sphingosine** | **5 mg** | **111.00** |
| **1930-25** | N-*cis*-15-C24:1-D-*erythro*-Ceramide; N-Nervonoyl-D-*erythro*-sphingosine<br>$C_{42}H_{81}NO_3$ **CAS#:** 54164-50-0<br><br>**Source:** synthetic **Mol. Wt.:** 648 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, DMSO, warm methanol **Storage:** –20°C | **25 mg** | **510.00** |

## 2-Hydroxy Ceramides

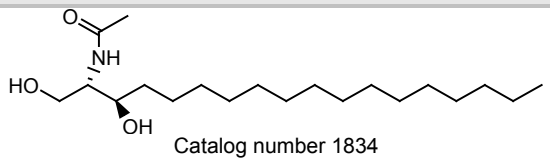
| | | | |
|---|---|---|---|
| **2042** | **N-(R,S)-*alpha*-Hydroxydodecanoyl-D-*erythro*-sphingosine**<br>N-(R,S)-*alpha*-Hydroxy-C12:0-D-*erythro*-ceramide $C_{30}H_{59}NO_4$<br><br>**Source:** synthetic **Mol. Wt.:** 498 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, methanol, ethanol, DMSO **Storage:** –20°C | **5 mg** | **174.00** |

| | | | |
|---|---|---|---|
| **2044** | **N-(R,S)-*alpha*-Hydroxyoctadecanoyl-D-*erythro*-sphingosine**<br>N-(R,S)-*alpha*-Hydroxy-C18:0-D-*erythro*-ceramide; N-(R,S)-*alpha*-Hydroxystearoyl-D-*erythro*-sphingosine $C_{36}H_{71}NO_4$<br><br>**Source:** synthetic **Mol. Wt.:** 582 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform/methanol/DI water, 2:1:0.5 **Storage:** –20°C | **5 mg** | **174.00** |

## Ceramide Made from Sphingosines with Sphingoid Bases Other Than C18

| | | | |
|---|---|---|---|
| **1842** | **N-Acetyl-D-*erythro*-sphingosine (C14 sphingoid base)**<br>N-C2:0 Ceramide of D-*erythro*-C14-sphingosine $C_{16}H_{31}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 285 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, DMSO, DMF (up to 5 mg/ml) **Storage:** –20°C | **5 mg** | **204.00** |
| **2077** | **N-Hexadecanoyl-D-*erythro*-C16-sphingosine (C16 sphingoidbase)**<br>N-Palmitoyl-D-*erythro*-C16-sphingosine; N-C16:0 Ceramide of D-*erythro*-C16-sphingosine $C_{32}H_{63}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 510 **Purity:** 98% by TLC, MS **Appearance:** solid<br>**Solubility:** chloroform, warm ethanol, warm methanol **Storage:** –20°C | **1 mg** | **264.00** |

## Dihydroceramides



Catalog number 1834

| | | | |
|---|---|---|---|
| **1834** | **N-Acetyl-D-*erythro*-dihydrosphingosine**<br>N-C2:0-D-*erythro*-Dihydroceramide; N-Acetyl-D-*erythro*-sphinganine $C_{20}H_{41}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 344 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | **5 mg** | **76.00** |
| **1910** | **N-Hexanoyl-D-*erythro*-dihydrosphingosine**<br>N-C6:0-D-*erythro*-Dihydroceramide; N-Hexanoyl-D-*erythro*-sphinganine $C_{24}H_{49}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 400 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol, DMSO **Storage:** –20°C | **5 mg** | **76.00** |
| **1854** | **N-Octanoyl-D-*erythro*-dihydrosphingosine**<br>N-C8:0-D-*erythro*-Dihydroceramide; N-Octanoyl-D-*erythro*-sphinganine $C_{26}H_{53}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 428 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, DMSO **Storage:** –20°C | **5 mg** | **76.00** |

**2041** **N-Octadecanoyl-D-*erythro*-dihydrosphingosine** **10 mg** **118.00**
N-C18:0-D-*erythro*-Dihydroceramide; N-Octadecanoyl-D-*erythro*-sphinganine; N-Stearoyl-D-*erythro*-dihydrosphingosine $C_{36}H_{73}NO_3$

**Source:** synthetic **Mol. Wt.:** 568 **Purity:** 98% by TLC **Appearance:** solid
**Solubility:** hot ethanol, DMSO, warm chloroform/methanol, 5:1 **Storage:** –20°C

## 2-Hydroxy Dihydroceramides

**2043** **N-(R,S)-*alpha*-Hydroxydodecanoyl-D-*erythro*-dihydrosphingosine** **5 mg** **186.00**
N-(R,S)-*alpha*-Hydroxy-C12:0-D-*erythro*-dihydroceramide $C_{30}H_{61}NO_4$

**Source:** synthetic **Mol. Wt.:** 500 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform/methanol/DI water, 2:1:0.5 **Storage:** –20°C

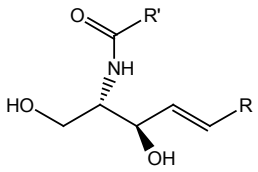
**2045** **N-(R,S)-*alpha*-Hydroxyoctadecanoyl-D-*erythro*-dihydrosphingosine** **5 mg** **186.00**
N-(R,S)-*alpha*-Hydroxy-C18:0-D-*erythro*-dihydroceramide; N-(R,S)-*alpha*-Hydroxystearoyl-D-*erythro*-dihydrosphingosine $C_{36}H_{73}NO_4$

**Source:** synthetic **Mol. Wt.:** 584 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform/methanol/DI water, 2:1:0.5 **Storage:** –20°C

**2047** **N-(R,S)-*alpha*-Hydroxyhexadecanoyl-D-*erythro*-dihydrosphingosine** **5 mg** **115.00**
N-(R,S)-*alpha*-Hydroxy-C16:0-D-*erythro*-dihydroceramide; N-(R,S)-*alpha*-Hydroxypalmitoyl-D-*erythro*-dihydrosphingosine $C_{34}H_{69}NO_4$

**Source:** synthetic **Mol. Wt.:** 556 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** chloroform/methanol/DI water, 2:1:0.5 **Storage:** –20°C

## Ceramides From Natural Sources



General ceramide structure

**1056** **Ceramides** **25 mg** **103.00**
Ceramides with hydroxy and non-hydroxy acyl groups
$C_{42}H_{83}NO_4$ **CAS#:** 104404-17-13

**Source:** natural, bovine **Mol. Wt.:** 666(2-hydroxylignoceroyl) **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

**1322** **Ceramides** **10 mg** **77.00**
**1322-05** Ceramides with mostly non-hydroxy acyl groups $C_{36}H_{71}NO_3$ **50 mg** **259.00**

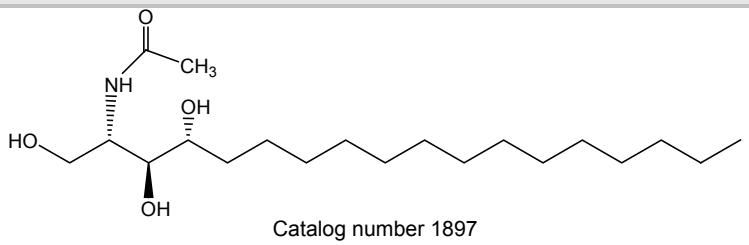
**Source:** natural, bovine **Mol. Wt.:** 566 (stearoyl) **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** ethanol, chloroform/methanol, 2:1 **Storage:** –20°C

| | | | |
|---|---|---|---|
| **1323** | **Ceramides** | **10 mg** | **77.00** |
| **1323-05** | Ceramides with mostly hydroxy acyl groups $C_{36}H_{71}NO_4$ | **50 mg** | **259.00** |

**Source:** natural, bovine **Mol. Wt.:** 582 (2-hydroxystearoyl) **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

See Table III (pg. 93-97) for typical fatty acid content of products prepared from natural sources.

## Phytoceramides




Catalog number 1897

| | | | |
|---|---|---|---|
| **1897** | **N-Acetyl-phytosphingosine**<br>N-C2:0-Phytoceramide $C_{20}H_{41}NO_4$ | **5 mg** | **103.00** |

**Source:** semisynthetic, yeast (*Pichia ciferri*) **Mol. Wt.:** 360 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** ethanol, methanol, warm DMSO, chloroform/methanol, 1:1 (warm) **Storage:** –20°C

| | | | |
|---|---|---|---|
| **1895** | **N-Hexanoyl-phytosphingosine**<br>N-C6:0-Phytoceramide $C_{24}H_{49}NO_4$ | **5 mg** | **103.00** |

**Source:** semisynthetic, yeast *(Pichia ciferri*) **Mol. Wt.:** 416 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** ethanol, methanol, chloroform/methanol,1:1 (warm) **Storage:** –20°C

| | | | |
|---|---|---|---|
| **1894** | **N-Octanoyl-phytosphingosine**<br>N-C8:0-Phytoceramide $C_{26}H_{53}NO_4$ | **5 mg** | **103.00** |

**Source:** semisynthetic, yeast (*Pichia ciferri*) **Mol. Wt.:** 444 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** ethanol, methanol, chloroform/methanol, 1:1 (warm) **Storage:** –20°C

| | | | |
|---|---|---|---|
| **2035** | **N-Hexadecanoyl-phytosphingosine**<br>N-C16:0-Phytoceramide; N-Palmitoyl-phytosphingosine $C_{34}H_{69}NO_4$ | **5 mg** | **99.00** |

**Source:** semisynthetic, yeast (*Pichia ciferri*) **Mol. Wt.:** 556 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C

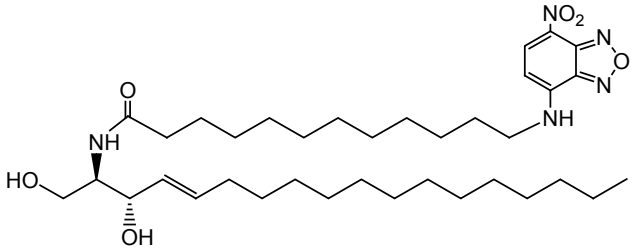
| | | | |
|---|---|---|---|
| **2034** | **N-Octadecanoyl-phytosphingosine**<br>N-C18:0-Phytoceramide; N-Stearoyl-phytosphingosine $C_{36}H_{73}NO_4$ | **5 mg** | **99.00** |

**Source:** semisynthetic, yeast (*Pichia ciferri*) **Mol. Wt.:** 584 **Purity:** 98+% by TLC, MS **Appearance:** solid **Solubility:** chloroform/methanol, 1:1 (warm) **Storage:** –20°C

| | | | |
|---|---|---|---|
| **2036** | **N-Tetracosanoyl-phytosphingosine**<br>N-C24:0-Phytoceramide; N-Lignoceroyl-phytosphingosine $C_{42}H_{85}NO_4$<br><br>**Source:** semisynthetic, yeast (*Pichia ciferri*) **Mol. Wt.:** 668 **Purity:** 98+% by TLC, MS **Appearance:** solid **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C | **5 mg** | **126.00** |

## Fluorescent Ceramides

| | | | |
|---|---|---|---|
| **1841**<br>**1841-001** | **N-Hexanoyl-NBD-D-*erythro*-sphingosine**<br>N-C6:0-NBD-Ceramide; N-C6:0-NBD-D-*erythro*-Sphingosine $C_{30}H_{49}N_5O_6$<br>**CAS#:** 86701-10-2<br><br>**Source:** synthetic **Mol. Wt.:** 576 **Melting Point (°C):** 85.7-87.9 **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol<br>**Storage:** –20°C | **100 µg**<br>**1 mg** | **204.00**<br>**302.00** |




Catalog number 1618

Excitation: 460 nm
Emission: 535 nm

| | | | |
|---|---|---|---|
| **1618**<br>**1618-001** | **N-Dodecanoyl-NBD-D-*erythro*-sphingosine**<br>N-C12:0-NBD-Ceramide; N-C12:0-NBD-D-*erythro*-Sphingosine $C_{36}H_{61}N_5O_6$<br><br>**Source:** synthetic **Mol. Wt.:** 660 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C | **100 ug**<br>**1 mg** | **147.00**<br>**526.00** |
| **1857**<br>**1857-001** | **N-Hexanoyl-NBD-L-*threo*-sphingosine**<br>N-C6:0-NBD-Ceramide; N-C6:0-NBD-L-*threo*-Sphingosine $C_{30}H_{49}N_5O_6$<br><br>**Source:** synthetic **Mol. Wt.:** 576 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | **100 µg**<br>**1 mg** | **162.00**<br>**526.00** |
| **1620**<br>**1620-001** | **N-Dodecanoyl-NBD-L-*threo*-sphingosine**<br>N-C12:0-NBD-Ceramide; N-C12:0-NBD-L-*threo*-Sphingosine $C_{36}H_{61}N_5O_6$<br><br>**Source:** synthetic **Mol. Wt.:** 660 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C | **100 µg**<br>**1 mg** | **162.00**<br>**526.00** |
| **1624**<br>**1624-001** | **N-Hexanoyl-NBD-L-*threo*-dihydrosphingosine**<br>N-C6:0-NBD-Dihydroceramide; N-C6:0-NBD-L-*threo*-Dihydrosphingosine $C_{30}H_{51}N_5O_6$<br><br>**Source:** synthetic **Mol. Wt.:** 578 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C | **100 µg**<br>**1 mg** | **147.00**<br>**526.00** |

| | | | |
|---|---|---|---|
| **1623** | **N-Dodecanoyl-NBD-L-*threo*-dihydrosphingosine** | **100 µg** | **147.00** |
| **1623-001** | N-C12:0-NBD-Dihydroceramide; N-C12:0-NBD-L-*threo*-Dihydrosphingosine $C_{36}H_{63}N_5O_6$ | **1 mg** | **526.00** |

**Source:** synthetic **Mol. Wt.:** 662 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

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| | | | |
|---|---|---|---|
| **1626** | **N-Hexanoyl-NBD-D-*erythro*-dihydrosphingosine** | **100 µg** | **126.00** |
| **1626-001** | N-C6:0-NBD-Dihydroceramide; N-C6:0-NBD-D-*erythro*-Dihydrosphingosine $C_{30}H_{51}N_5O_6$ | **1 mg** | **526.00** |

**Source:** synthetic **Mol. Wt.:** 578 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

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|---|---|---|---|
| **1625** | **N-Dodecanoyl-NBD-D-*erythro*-dihydrosphingosine** | **100 µg** | **147.00** |
| **1625-001** | N-C12:0-NBD-Dihydroceramide; N-C12:0-NBD-D-*erythro*-Dihydrosphingosine $C_{36}H_{63}N_5O_6$ | **1 mg** | **526.00** |

**Source:** synthetic **Mol. Wt.:** 662 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

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| | | | |
|---|---|---|---|
| **1628** | **N-Hexanoyl-NBD-phytosphingosine** | **100 µg** | **126.00** |
| **1628-001** | N-C6:0-NBD-Phytoceramide; N-C6:0-NBD-Phytosphingosine $C_{30}H_{51}N_5O_7$ | **1 mg** | **526.00** |

**Source:** semisynthetic, bacteria **Mol. Wt.:** 594 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

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|---|---|---|---|
| **1627** | **N-Dodecanoyl-NBD-phytosphingosine** | **100 µg** | **133.00** |
| **1627-001** | N-C12:0-NBD-Phytoceramide; N-C12:0-NBD-Phytosphingosine $C_{36}H_{63}N_5O_7$ | **1 mg** | **526.00** |

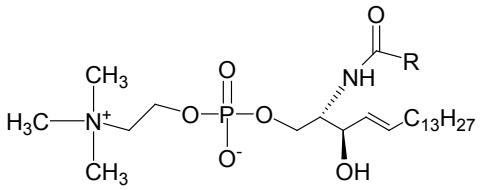
**Source:** semisynthetic, bacteria **Mol. Wt.:** 678 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

**See Biochemicals and Reagents section (page 88) for additional fluorescent labeled products.**

**Compounds with fluorescent labels other than NBD are available on custom basis. Contact Technical Service for more information.**

## Phosphosphingolipids

### Sphingomyelins




Catalog number 1051

**1051** **Sphingomyelin** **25 mg** **47.00**
**1051-1** SPM; Ceramide-1-phosphorylcholine $C_{41}H_{83}N_2O_6P$ **CAS#:** 85187-10-6 **1 g** **522.00**

**Source:** natural, bovine **Mol. Wt.:** 731 (stearoyl) **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

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**1328** **Sphingomyelin** **25 mg** **47.00**
SPM; Ceramide-1-phosphorylcholine $C_{47}H_{95}N_2O_6P$ **CAS#:** 85187-10-6

**Source:** natural, porcine RBC **Mol. Wt.:** 815 (lignoceroyl) **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, ethanol **Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

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**1329** **Sphingomyelin** **25 mg** **47.00**
**1329-1** SPM; Ceramide-1-phosphorylcholine $C_{46}H_{93}N_2O_6P$ **CAS#:** 85187-10-6 **1 gram** **474.00**

**Source:** natural, bovine buttermilk **Mol. Wt.:** 801 (tricosanoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform, ethanol **Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

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**1332** **Sphingomyelin** **25 mg** **47.00**
**1332-1** SPM; Ceramide-1-phosphorylcholine $C_{39}H_{79}N_2O_6P$ **1 gram** **522.00**

**Source:** natural, chicken, egg **Mol. Wt.:** 703 (palmitoyl) **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, methanol, warm ethanol **Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

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**1907** **N-Acetyl-sphingosylphosphorylcholine** **5 mg** **184.00**
N-C2:0-Sphingomyelin $C_{25}H_{51}N_2O_6P$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 506 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** ethanol, chloroform/methanol, 2:1 **Storage:** –20°C

Mixture of D-erythro and L-threo isomers

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**1909** **N-Hexanoyl-sphingosylphosphorylcholine** **5 mg** **184.00**
N-C6:0-Sphingomyelin $C_{29}H_{59}N_2O_6P$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 563 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** ethanol, chloroform/methanol, 2:1 **Storage:** –20°C

Mixture of D-erythro and L-threo isomers

**1911** **N-Octadecanoyl-sphingosylphosphorylcholine** **5 mg** **184.00**
N-C18:0-Sphingomyelin; N-Stearoyl-sphingosylphosphorylcholine
$C_{41}H_{83}N_2O_6P$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 731 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

Mixture of D-erythro and L-threo isomers

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**1890** **N-Heptadecanoyl-sphingosylphosphorylcholine** **5 mg** **184.00**
N-C17:0-Sphingomyelin $C_{40}H_{81}N_2O_6P$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 717 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

Mixture of D-*erythro* and L-*threo* isomers

---

**1917** **N-Eicosanoyl-D-*erythro*-sphingosylphosphorylcholine** **0.5 mg** **184.00**
N-C20:0-Sphingomyelin $C_{43}H_{87}N_2O_6P$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 759 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** ethanol, methanol, chloroform/methanol, 14:1
**Storage:** –20°C

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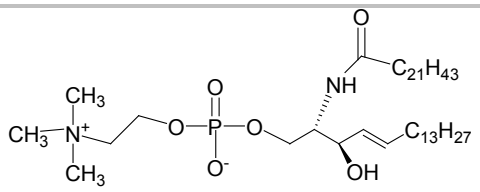


Catalog number 1918

**1918** **N-Docosanoyl-D-*erythro*-sphingosylphosphorylcholine** **0.5 mg** **184.00**
N-C22:0-Sphingomyelin $C_{45}H_{91}N_2O_6P$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 787 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** ethanol, methanol, chloroform/methanol, 14:1
**Storage:** –20°C

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**2200** **N-1-$^{13}$C-Hexadecanoyl-sphingosylphosphorylcholine** **1mg** **184.00**
D-*erythro*-Sphingomyelin with 1-$^{13}$C-palmitic acid; N-1-$^{13}$C-Palmitoyl-sphingosylphosphorylcholine $^{12}C_{38}{}^{13}CH_{79}N_2O_6P$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 703 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

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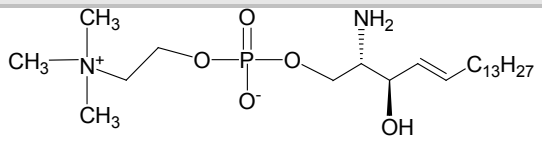
**1327** **N-Acyl-sphingosylphosphorylethanolamine** **5 mg** **154.00**
Ceramide phosphorylethanolamine $C_{43}H_{87}N_2O_6P$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 773 (tricosanoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

## Sphingosylphosphorylcholines (SPC)



Catalog number 1318

**1318** **D-*erythro*-Sphingosylphosphorylcholine** **5 mg** **254.00**
D-*erythro*-SPC $C_{23}H_{49}N_2O_5P$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 465 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

**1319** **L-*threo*-Sphingosylphosphorylcholine** **5 mg** **254.00**
L-*threo*-SPC $C_{23}H_{49}N_2O_5P$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 465 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

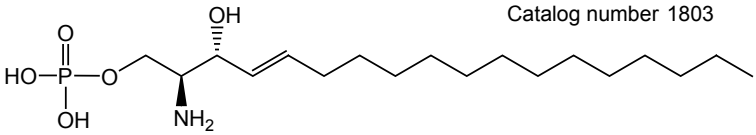
**1321** **Sphingosylphosphorylcholine** **10 mg** **234.00**
**1321-05** *lyso*-Sphingomyelin; SPC (mixture of D-*erythro* and L-*threo* isomers) **50 mg** **926.00**
$C_{23}H_{49}N_2O_5P$ **CAS#:** 82970-80-7

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 465 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

**1913** ***lyso*-Dihydrosphingomyelin** **1 mg** **133.00**
Dihydrosphingosylphosphorylcholine (mixture of D-*erythro* and L-*threo* isomers) $C_{23}H_{51}N_2O_5P$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 467 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

## Sphingosine Phosphates



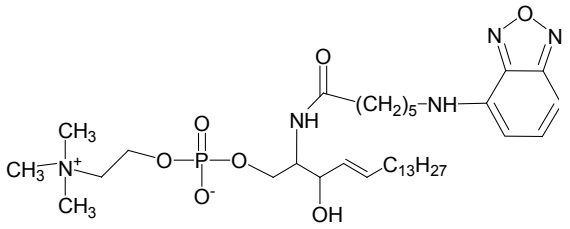
Catalog number 1803

**1803** **D-*erythro*-Sphingosine-1-phosphate** **5 mg** **278.00**
S-1-P $C_{18}H_{38}NO_5P$ **CAS#:** 26993-30-6

**Source:** synthetic **Mol. Wt.:** 380 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** chloroform plus a few drops of TFA, chloroform/methanol/40% dimethylamine, 5:15:3, 1mg/ml **Storage:** –20°C

| | | | |
|---|---|---|---|
| **1852** | **D-*erythro*-Dihydrosphingosine-1-phosphate**<br>$C_{18}H_{40}NO_5P$ **CAS#:** 19794-97-9<br><br>**Source:** synthetic **Mol. Wt.:** 382 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform plus a few drops of TFA, chloroform/methanol/40% dimethylamine, 5:15:3, 1mg/ml **Storage:** –20°C | **5 mg** | **278.00** |
| **2046** | **N-Hexadecanoyl-D-*erythro*-sphingosine-1-phosphate, $NH_4^+$salt**<br>N-C16:0-Ceramide-1-phosphate $C_{34}H_{68}NO_6P•NH_3$<br><br>**Source:** synthetic **Mol. Wt.:** 618+$NH_3$ **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform/methanol/acetic acid, 60:15:25 **Storage:** –20°C | **5 mg** | **377.00** |

## Fluorescent Sphingomyelins



Catalog number 1912

Excitation: 460 nm
Emission: 535 nm

| | | | |
|---|---|---|---|
| **1912** | **N-Hexanoyl-NBD-sphingosylphosphorylcholine** | **100 µg** | **111.00** |
| **1912-001** | N-C6:0-NBD-Sphingomyelin; N-C6:0-NBD-Sphingosylphosphorylcholine<br>$C_{35}H_{61}N_6O_9P$ **CAS#:** 94885-04-8<br><br>**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 740 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C<br><br>Mixture of D-*erythro* and L-*threo* isomers | **1 mg** | **290.00** |
| **1619** | **N-Dodecanoyl-NBD-sphingosylphosphorylcholine** | **100 µg** | **147.00** |
| **1619-001** | N-C12:0-NBD-Sphingomyelin; N-C12:0-NBD-Sphingosylphosphorylcholine<br>$C_{41}H_{73}N_6O_9P$<br><br>**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 825 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C<br><br>Mixture of D-*erythro* and L-*threo* isomers | **1 mg** | **319.00** |

**See Biochemicals and Reagents section (page 88) for additional fluorescent labeled products.**

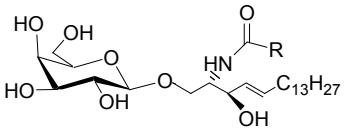
**Compounds with fluorescent labels other than NBD are available on custom basis. Contact Technical Service for more information.**

## Glycosphingolipids

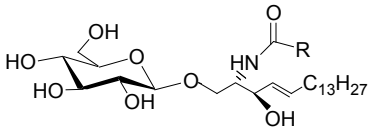
Glycosphingolipids are widely distributed in animal and plant tissues. They consist of a ceramide (Cer) bound in glycosidic linkage through the primary hydroxyl to a mono- or oligosaccharide which may contain substituents such as a sulfate, acetate, or phosphate group. They are amphiphilic and the less glycosylated compounds can be dispersed in buffers by dissolving them in a detergent or organic solvent (EtOH, DMSO, isoPrOH) and mixing by sonication.

Galactosphingolipids, mainly GalCer (cerebrosides) and its sulfate ester, occur in large amounts in the nervous system. Glucosphingolipids, the simplest of which is GlcCer (glucocerebrosides), are very widely distributed, particularly in nerve cell membranes. GlcCer is isolated from a variety of natural sources including human, bovine, and plant. Each of these sources has a heterogeneity in the fatty acid content of the ceramide as well as an occasional variation in the sphingoid chain. Globosides (containing both glucose and galactose) are a prominent group of glycosphingolipids, they contain an $\alpha$-linked galactose moiety and are typically located in blood cell membranes. Gangliosides are another prominent group of glycosphingolipids; they are acidic because of substitution with sialic (neuraminic) acid. The glycosphingolipids function in a wide range of enzyme and structural interactions, such as immunological or membrane recognition phenomena, binding of microbial pathogens, hormone and growth factor actions, cancer cell growth and malignancy, atherosclerosis, genetic disease errors, blood group determinants, etc. Tissues change in glycosphingolipid composition during embryogenesis, maturation, aging, and other vital physiological processes. Some glycosphingolipids stimulate cell proliferation, others induce apoptosis, effects of great significance to cancer therapy and maturational development. Marked differences in glycosphingolipid composition are seen in normal and cancerous cells. See references (13-25).
**See Literature References on page 99.**

### Galactosylceramides and Glucosylceramides




Galactosylceramide




Glucosylceramide

**1050** **Cerebrosides** **50 mg** **89.00**
Galactosylceramide; Ceramide *beta*-D-galactoside
$C_{48}H_{93}NO_9$ **CAS#:** 85305-88-0

**Source:** natural, bovine **Mol. Wt.:** 828 (2-hydroxytetracosanoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

**1066** **Cerebroside; Kerasin (top spot)** **10 mg** **111.00**
Galactosylceramide with mostly non-hydroxy fatty acid side chain
$C_{42}H_{81}NO_8$ **CAS#:** 536-13-0

**Source:** natural, bovine **Mol. Wt.:** 810 (nervonyl, [24:1]) **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.5
**Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

**1138** **Cerebroside; Phrenosin (bottom spot)** **10 mg** **111.00**
Galactosylceramide with mostly 2-hydroxy fatty acid side chains
$C_{42}H_{81}NO_9$ **CAS#:** 37211-11-3

**Source:** natural, bovine **Mol. Wt.:** 744 (2-hydroxystearoyl) **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.5
**Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

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**1305** **Psychosine (free amine form)** **10 mg** **184.00**
*lyso*-Cerebroside; 1-*beta*-D-Galactosylsphingosine
$C_{24}H_{47}NO_7$ **CAS#:** 2238-90-6

**Source:** semisynthetic, bovine **Mol. Wt.:** 461 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** ethanol, chloroform/methanol/DI water, 5:1:0.1
**Storage:** –20°C

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**1914** **N-Octadecanoyl-$D_{35}$-psychosine (perdeuterated C18:0 fatty acid)** **5 mg** **306.00**
N-C18:0-$D_{35}$-Cerebroside, perdeuterated; N-Stearoyl-$D_{35}$-Psychosine, perdeuterated $C_{42}H_{46}D_{35}NO_8$

**Source:** semisynthetic, bovine **Mol. Wt.:** 762 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, hot ethanol, chloroform/methanol, 2:1
**Storage:** –20°C

Deuterium labeled stearoyl sidechain

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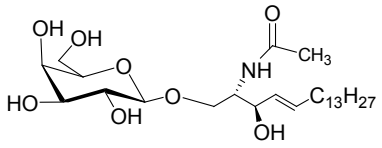


Catalog number 1325

**1325** **N-Acetyl-psychosine** **10 mg** **154.00**
N-C2:0-Cerebroside $C_{26}H_{49}NO_8$

**Source:** semisynthetic, bovine **Mol. Wt.:** 503 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

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**1335** **N-Pentadecanoyl-psychosine** **5 mg** **111.00**
N-C15:0-Cerebroside $C_{39}H_{75}NO_8$

**Source:** semisynthetic, bovine **Mol. Wt.:** 686 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/ methanol, 2:1 **Storage:** –20°C

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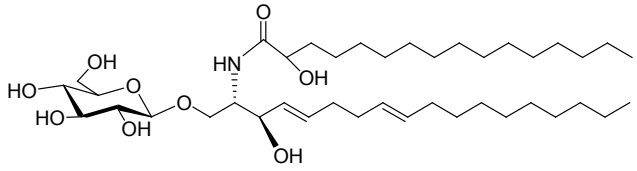
**1334** **N-Octanoyl-*beta*-D-galactosylceramide** **10 mg** **271.00**
**1334-50** N-C8:0-Galactosylceramide $C_{32}H_{61}NO_8$ **50 mg** **942.00**

**Source:** semisynthetic, bovine **Mol. Wt.:** 588 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** ethanol, methanol, chloroform/methanol, 9:1
**Storage:** –20°C

| | | | |
|---|---|---|---|
| **1621**<br>**1621-001** | **N-Hexanoyl-NBD-galactosylceramide**<br>N-C6:0-NBD-*beta*-D-Galactosylsphingosine; N-C6:0-NBD-Cerebroside<br>$C_{36}H_{59}N_5O_{11}$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 738 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 5:1 **Storage:** –20°C | **100 µg**<br>**1 mg** | **147.00**<br>**526.00** |
| **1633**<br>**1633-001** | **N-Dodecanoyl-NBD-galactosylceramide**<br>N-C12:0-NBD-*beta*-D-Galactosylsphingosine; N-C12:0-NBD-Cerebroside<br>$C_{42}H_{71}N_5O_{11}$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 822 **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform, DMSO, chloroform/methanol, 2:1 **Storage:** –20°C | **100 µg**<br>**1 mg** | **118.00**<br>**526.00** |
| **1057**<br>**1057-25** | **Glucocerebrosides, Gaucher's spleen**<br>Glucosylceramide; Ceramide *beta*-D-glucoside $C_{48}H_{93}NO_8$<br>**CAS#** 85305-87-9<br><br>**Source:** natural, human **Mol. Wt.:** 812 (lignoceryl) **Purity:** 98+% by TLC, GC, MS<br>**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C<br><br>See Table III (pg. 93-97) for fatty acid content | **5 mg**<br>**25 mg** | **204.00**<br>**753.00** |
| **1521**<br>**1521-50** | **Glucocerebrosides**<br>Glucosylceramide; Ceramide *beta*-D-glucoside $C_{46}H_{89}NO_8$<br><br>**Source:** natural, bovine buttermilk **Mol. Wt.:** 784 (docosanoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C<br><br>See Table III (pg. 93-97) for side chain variants | **5 mg**<br>**50 mg** | **133.00**<br>**1,013.00** |




Catalog number 1522

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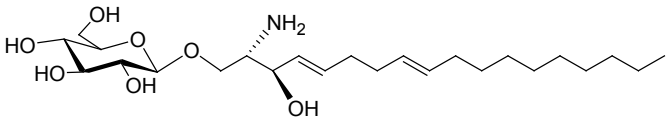
|---|---|---|---|
| **1522**<br>**1522-100** | **Glucocerebrosides, plant**<br>Glucosylceramide; Ceramide *beta*-D-glucoside $C_{40}H_{75}NO_9$<br><br>**Source:** natural, plant **Mol. Wt.:** 714 (2-hydroxyhexadecanoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C<br><br>Sphingoid backbone is >95% 4,8-sphingadiene (C18:2 t,t-4,8) and most of the fatty acids are of the 2-hydroxy type. See Table III (pg. 93-97) for fatty acid content | **5 mg**<br>**100 mg** | **60.00**<br>**826.00** |
| **1622**<br>**1622-001** | **N-Hexanoyl-NBD-glucosylceramide**<br>N-C6:0-NBD-*beta*-D-Glucosylsphingosine; N-C6:0-NBD-Glucosylceramide<br>$C_{36}H_{59}N_5O_{11}$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 738 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 5:1 **Storage:** –20°C | **100 µg**<br>**1 mg** | **147.00**<br>**526.00** |

**1306** **Glucopsychosine** **5 mg** **254.00**
Glucosylsphingosine; *lyso*-Glucocerebroside; 1-*beta*-D-Glucosylsphingosine
$C_{24}H_{47}NO_7$ **CAS#:** 52050-17-6

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 461 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** ethanol, methanol, chloroform/methanol, 2:1
**Storage:** –20°C




Catalog number 1310

**1310** **Glucopsychosine** **5 mg** **184.00**
Glucosylsphingosine; *lyso*-Glucocerebroside; 1-*beta*-D-Glucosylsphingadienine $C_{24}H_{45}NO_7$ **CAS#:** 52050-17-6

**Source:** natural, plant **Mol. Wt.:** 460 (based on 1-*beta*-D-glucosylsphinga-4,8-dienine)
**Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol, 4:1
**Storage:** –20°C

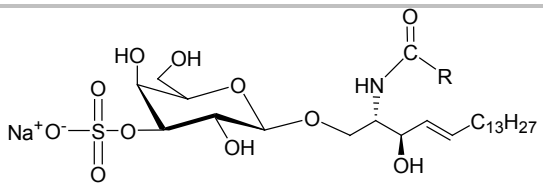
Sphingoid backbone is >95% 4,8-sphingadiene (C18:2 t,t-4, 8)

**1531** **N-Docosanoyl-glucopsychosine** **1 mg** **306.00**
N-C22:0-Glucocerebroside; N-Docosanoyl-*beta*-glucosylsphingosine
$C_{46}H_{89}NO_8$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 784 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform **Storage:** –20°C

**1533** **N-Hexadecanoyl-$D_3$-glucopsychosine, deuterated** **1 mg** **290.00**
N-C16:0-$D_3$-Glucopsychosine, deuterated; N-C16:0-$D_3$-Glucocerebroside, deuterated; N-Palmitoyl-$D_3$-glucopsychosine, deuterated $C_{40}H_{74}D_3NO_8$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 703 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C




Catalog number 1049

**1049** **Sulfatides** **50 mg** **377.00**
Ceramide-galactoside-3-sulfate; Cerebroside sulfate $C_{42}H_{80}NNaO_{11}S$
**CAS#:** 85496-63-5

**Source:** natural, bovine **Mol. Wt.:** 830 (stearoyl) $Na^+$ Salt **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** DMSO, chloroform/methanol/DI water, 2:1:0.1 (if needed, a few drops of acetic acid) **Storage:** –20°C

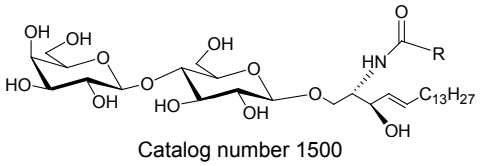
See Table III (pg. 93-97) for fatty acid content

| | | | |
|---|---|---|---|
| **1904** | ***lyso*-Sulfatide ($NH_4^+$ salt)**<br>Sphingosine-1-galactoside-3-sulfate $C_{24}H_{47}NO_{10}S•NH_3$ **CAS#:** 38621-58-8<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 542 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C | **1 mg** | **429.00** |
| **2076** | **N-Acetyl-sulfatide**<br>N-C2:0-Sulfatide; N-Acetyl-sphingosyl-*beta*-D-galactoside-3-sulfatide<br>$C_{26}H_{49}NO_{11}S$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 584 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** ethanol, methanol, chloroform/methanol, 1:1<br>**Storage:** –20°C | **1 mg** | **290.00** |
| **1875** | **N-Hexadecanoyl-sulfatide**<br>N-C16:0-Sulfatide; N-Palmitoyl-sulfatide; N-Palmitoyl-sphingosyl-*beta*-D-galactoside-3-sulfate $C_{40}H_{77}NO_{11}S$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 780 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C | **1 mg** | **290.00** |
| **1932** | **N-Octadecanoyl-sulfatide**<br>N-C18:0-Sulfatide; N-Octadecanoyl-sphingosyl-*beta*-D-galactoside-3-sulfate<br>$C_{42}H_{81}NO_{11}S$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 808 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C | **1 mg** | **319.00** |
| **1933** | **N-Octadecenoyl-sulfatide**<br>N-C18:1-Sulfatide; N-Octadecenoyl-sphingosyl-*beta*-D-galactoside-3-sulfate<br>$C_{42}H_{79}NO_{11}S$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 806 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C | **1 mg** | **319.00** |
| **1888** | **N-Tetracosanoyl sulfatide**<br>N-C24:0-Sulfatide; N-Tetracosanoyl-sphingosyl-*beta*-D-galactoside-3-sulfate; N-Lignoceroyl-sulfatide $C_{48}H_{93}NO_{11}S$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 892 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C | **1 mg** | **319.00** |
| **1931** | **N-Tetracosenoyl-sulfatide**<br>N-Nervonyl-sulfatide; N-C24:1-Sulfatide; N-Tetracosenoyl-sphingosyl-*beta*-D-galactoside-3-sulfate $C_{48}H_{91}NO_{11}S$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 890 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C | **1 mg** | **319.00** |
| **1536** | **N-Octadecanoyl-$D_3$-sulfatide, deuterated**<br>N-C18:0-$D_3$-Sulfatide, deuterated; N-Stearoyl-$D_3$-sulfatide, deuterated<br>$C_{42}H_{78}D_3NO_{11}S$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 811 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1<br>**Storage:** –20°C | **1 mg** | **414.00** |

| | | | |
|---|---|---|---|
| **1632** | **N-Dodecanoyl-NBD-sulfatide** | **100 µg** | **119.00** |
| **1632-001** | N-C12:0-NBD-Sulfatide; N-Dodecanoyl-NBD-*lyso*-sulfatide; N-Dodecanoyl-NBD-sphingosyl-*beta*-D-galactoside-3-sulfate $C_{42}H_{71}N_5O_{14}S$ | **1 mg** | **526.00** |

**Source:** semisynthetic, bovine **Mol. Wt.:** 901 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

## Lactosylceramides



Catalog number 1500

| | | | |
|---|---|---|---|
| **1500** | **Lactosylceramides**<br>LC; Lactocerebrosides; CDH; Ceramide *beta*-lactoside<br>$C_{48}H_{91}NO_{13}$ **CAS#:** 4682-48-8 | **1 mg** | **147.00** |

**Source:** natural, porcine RBC **Mol. Wt.:** 890 (stearoyl) **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** DMSO, chloroform/methanol/DI water, 5:1:0.1
**Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

| | | | |
|---|---|---|---|
| **1507** | **Lactosylceramides** | **5 mg** | **204.00** |
| **1507-50** | LC; Lactocerebrosides; CDH; Ceramide *beta*-lactoside $C_{53}H_{101}NO_{13}$<br>**CAS#:** 4682-48-8 | **50 mg** | **1,390.00** |

**Source:** natural, bovine buttermilk **Mol. Wt.:** 960 (tricosanoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 5:1:0.1
**Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

| | | | |
|---|---|---|---|
| **1517** | ***lyso*-Lactosylceramide**<br>Lactosylsphingosine; *lyso*-LC $C_{30}H_{57}NO_{12}$ | **1 mg** | **186.00** |

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 623 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1
**Storage:** –20°C

| | | | |
|---|---|---|---|
| **1532** | **N-Hexadecanoyl-lactosylceramide**<br>N-C16:0-Lactosylceramide; N-Palmitoyl-lactosylceramide $C_{46}H_{87}NO_{13}$ | **1 mg** | **134.00** |

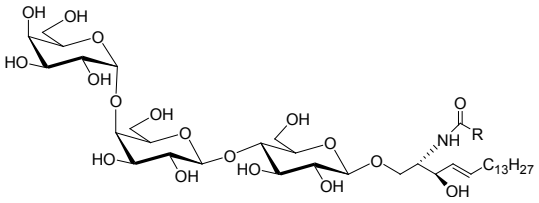
**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 862 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1
**Storage:** –20°C

| | | | |
|---|---|---|---|
| **1534** | **N-Hexadecanoyl-$D_3$-lactosylceramide, deuterated**<br>N-C16:0-$D_3$-Lactosylceramide, deuterated; N-Palmitoyl-D3-lactosylceramide, deuterated $C_{46}H_{84}D_3NO_{13}$ | **1 mg** | **376.00** |

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 865 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 5:1:0.1
**Storage:** –20°C

| | | | |
|---|---|---|---|
| **1538** | **N-Heptadecanoyl-lactosylceramide**<br>N-C17:0-Lactosylceramide; Lactosylceramide with C17:0 fatty acid side chain $C_{47}H_{89}NO_{13}$<br><br>**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 876 **Purity:** 98+% by TLC, MS<br>**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1<br>**Storage:** –20°C | **1 mg** | **167.00** |
| **1629**<br>**1629-001** | **N-Hexanoyl-NBD-lactosylceramide**<br>N-Hexanoyl-NBD-*beta*-D-lactosylsphingosine; N-C6:0-NBD-*beta*-D-Lactosylsphingosine; N-C6:0-NBD-Lactosylceramide $C_{42}H_{69}N_5O_{16}$<br><br>**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 900 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C | **50 ug**<br>**1 mg** | **184.00**<br>**824.00** |
| **1630**<br>**1630-001** | **N-Dodecanoyl-NBD-lactosylceramide**<br>N-Dodecanoyl-NBD-*beta*-D-lactosylsphingosine; N-C12:0-NBD-*beta*-D-Lactosylsphingosine; N-C12:0-NBD-Lactosylceramide $C_{48}H_{81}N_5O_{16}$<br><br>**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 984 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C | **50 µg**<br>**1 mg** | **204.00**<br>**793.00** |

## Ceramide Trihexosides



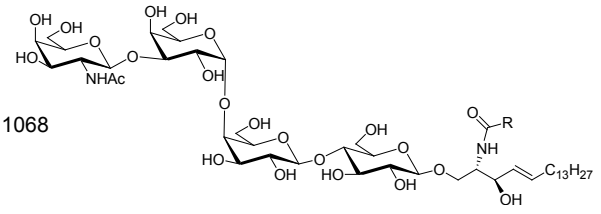
Catalog number 1067

| | | | |
|---|---|---|---|
| **1067**<br>**1067-10** | **Ceramide trihexosides**<br>CTH; Gb3; Globotriaosylceramide $C_{60}H_{113}NO_{18}$ **CAS#:** 71965-57-6<br><br>**Source:** natural, porcine RBC **Mol. Wt.:** 1137 (tetracosanoyl) **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** DMSO, hot methanol, chloroform/methanol, 2:1<br>**Storage:** –20°C<br><br>See Table III (pg. 93-97) for fatty acid content | **1 mg**<br>**10 mg** | **285.00**<br>**2,242.00** |
| **1513** | **Ceramide trihexosides (top spot)**<br>CTH with non-hydroxy fatty acid side chain $C_{54}H_{101}NO_{18}$<br><br>**Source:** natural, porcine RBC **Mol. Wt.:** 1052 (stearoyl) **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C | **0.5 mg** | **204.00** |
| **1514** | **Ceramide trihexosides (bottom spot)**<br>CTH with hydroxy fatty acid side chain $C_{54}H_{101}NO_{19}$<br><br>**Source:** natural, porcine RBC **Mol. Wt.:** 1068 (2-hydroxystearoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** DMSO, hot methanol, chloroform/methanol, 1:1<br>**Storage:** –20°C | **0.5 mg** | **232.00** |

| | | | |
|---|---|---|---|
| **1520** | ***lyso*-Ceramide trihexoside**<br>*lyso*-CTH; *lyso*-Globotriaosylsphingosine $C_{36}H_{67}NO_{17}$ **CAS#** 126550-86-5<br><br>**Source:** semisynthetic, porcine RBC **Mol. Wt.:** 786 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1<br>**Storage:** –20°C | **1 mg** | **429.00** |
| **1523** | **N-Heptadecanoyl-ceramide trihexoside**<br>N-C17:0-Ceramide trihexoside; N-Heptadecanoyl globotriaosylceramide<br>$C_{53}H_{99}NO_{18}$<br><br>**Source:** semisynthetic, porcine RBC **Mol. Wt.:** 1038 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** DMSO, hot methanol, chloroform/methanol, 2:1<br>**Storage:** –20°C | **0.5 mg** | **319.00** |
| **1524** | **N-Tricosanoyl-ceramide trihexoside**<br>N-C23:0-Ceramide trihexoside; N-Tricosanoyl globotriaosylceramide<br>$C_{59}H_{111}NO_{18}$<br><br>**Source:** semisynthetic, porcine RBC **Mol. Wt.:** 1122 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** DMSO, hot methanol, chloroform/methanol, 2:1<br>**Storage:** –20°C | **0.5 mg** | **319.00** |
| **1631**<br>**1631-001** | **N-Dodecanoyl-NBD-ceramide trihexoside**<br>N-C12:0-NBD-CTH; N-C12:0-NBD-Globotriaosylceramide $C_{54}H_{91}N_5O_{21}$<br><br>**Source:** semisynthetic, porcine RBC **Mol. Wt.:** 1145 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** DMSO, hot methanol, chloroform/methanol, 2:1<br>**Storage:** –20°C | **100 µg**<br>**1 mg** | **184.00**<br>**793.00** |
| **1537** | **N-Octadecanoyl-$D_3$-ceramide trihexoside, deuterated**<br>N-C18:0-$D_3$-CTH, deuterated; N-C18:0-$D_3$-Gb3, deuterated; N-Octadecanoyl-$D_3$-globotriaosylceramide,deuterated; N-Stearoyl-$D_3$-ceramide trihexoside, deuterated $C_{54}H_{98}D_3NO_{18}$<br><br>**Source:** semisynthetic, porcine RBC **Mol. Wt.:** 1055 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** DMSO, chloroform/methanol, 2:1 **Storage:** –20°C | **0.5 mg** | **348.00** |

## Globosides

Catalog number 1068



| | | | |
|---|---|---|---|
| **1068** | **Globosides**<br>Gb4; Globotetrahexosylceramide $C_{68}H_{126}N_2O_{23}$ **CAS#:** 11034-93-8<br><br>**Source:** natural, porcine RBC **Mol. Wt.:** 1340 (tetracosanoyl) **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** DMSO, hot methanol, chloroform/methanol, 2:1<br>**Storage:** –20°C<br><br>See Table III (pg. 93-97) for fatty acid content | **5 mg** | **365.00** |

## Stable Isotopes Labeled Glycolipids

**1914** **N-Octadecanoyl-$D_{35}$-psychosine, perdeuterated** **5 mg** **306.00**
N-C18:0-$D_{35}$-Cerebrosides, perdeuterated; N-Stearoyl-$D_{35}$-psychosine, perdeuterated $C_{42}H_{46}D_{35}NO_8$

**Source:** semisynthetic, bovine **Mol. Wt.:** 762 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, hot ethanol, chloroform/methanol, 2:1
**Storage:** –20°C

Deuterium labeled stearoyl sidechain

**1533** **N-Hexadecanoyl-$D_3$-glucopsychosine, deuterated** **1 mg** **290.00**
N-C16:0-$D_3$-Glucopsychosine, deuterated; N-C16:0-$D_3$-Glucocerebroside, deuterated; N-Palmitoyl-$D_3$-glucopsychosine, deuterated $C_{40}H_{74}D_3NO_8$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 703 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

**1534** **N-Hexadecanoyl-$D_3$-lactosylceramide, deuterated** **1 mg** **376.00**
N-C16:0-$D_3$-Lactosylceramide, deuterated; N-Palmitoyl-$D_3$-lactosylceramide, deuterated $C_{46}H_{84}D_3NO_{13}$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 865 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 5:1:0.1
**Storage:** –20°C

**1536** **N-Octadecanoyl-$D_3$-sulfatide, deuterated** **1 mg** **414.00**
N-C18:0-$D_3$-Sulfatide, deuterated; N-Stearoyl-$D_3$-sulfatide, deuterated $C_{42}H_{78}D_3NO_{11}S$

**Source:** semisynthetic, bovine **Mol. Wt.:** 811 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1
**Storage:** –20°C

**1537** **N-Octadecanoyl-$D_3$-ceramide trihexoside, deuterated** **0.5 mg** **348.00**
N-C18:0-$D_3$-CTH, deuterated; N-C18:0-$D_3$-Gb3, deuterated; N-Octadecanoyl-$D_3$-globotriaosylceramide, deuterated; N-Stearoyl-$D_3$-ceramide trihexoside, deuterated $C_{54}H_{98}D_3NO_{18}$

**Source:** semisynthetic, porcine **Mol. Wt.:** 1055 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** DMSO, chloroform/methanol, 2:1 **Storage:** –20°C

## Fluorescent Compounds

**1621** **N-Hexanoyl-NBD-galactosylceramide** **100 µg** **147.00**
**1621-001** N-C6:0-NBD-*beta*-D-Galactosylsphingosine; N-C6:0-NBD-Cerebroside **1 mg** **526.00**
$C_{36}H_{59}N_5O_{11}$

**Source:** semisynthetic, bovine **Mol. Wt.:** 738 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 5:1
**Storage:** –20°C

| | | | |
|---|---|---|---|
| **1633** | **N-Dodecanoyl-NBD-galactosylceramide** | **100 µg** | **118.00** |
| **1633-001** | N-C12:0-NBD-*beta*-D-Galactosylsphingosine; N-C12:0-NBD-Cerebroside $C_{42}H_{71}N_5O_{11}$ | **1 mg** | **526.00** |

**Source:** semisynthetic, bovine **Mol. Wt.:** 822 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, DMSO, chloroform/methanol, 2:1
**Storage:** –20°C

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| | | | |
|---|---|---|---|
| **1622** | **N-Hexanoyl-NBD-glucosylceramide** | **100 µg** | **147.00** |
| **1622-001** | N-C6:0-NBD-*beta*-D-Glucosylsphingosine; N-C6:0-NBD-Glucosylceramide $C_{36}H_{59}N_5O_{11}$ | **1 mg** | **526.00** |

**Source:** semisynthetic, bovine **Mol. Wt.:** 738 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 5:1 **Storage:** –20°C

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| | | | |
|---|---|---|---|
| **1629** | **N-Hexanoyl-NBD-lactosylceramide** | **50 ug** | **184.00** |
| **1629-001** | N-Hexanoyl-NBD-*beta*-D-lactosylsphingosine; N-C6:0-NBD-*beta*-D-Lactosylsphingosine; N-C6:0-NBD-Lactosylceramide $C_{42}H_{69}N_5O_{16}$ | **1 mg** | **824.00** |

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 900 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

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| | | | |
|---|---|---|---|
| **1630** | **N-Dodecanoyl-NBD-lactosylceramide** | **50 µg** | **204.00** |
| **1630-001** | N-Dodecanoyl-NBD-*beta*-D-lactosylsphingosine; N-C12:0-NBD-*beta*-D-Lactosylsphingosine; N-C12:0-NBD-Lactosylceramide $C_{48}H_{81}N_5O_{16}$ | **1 mg** | **793.00** |

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 984 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

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| | | | |
|---|---|---|---|
| **1631** | **N-Dodecanoyl-NBD-ceramide trihexoside** | **100 µg** | **184.00** |
| **1631-001** | N-C12:0-NBD-CTH; N-C12:0-NBD-Globotriaosylceramide $C_{54}H_{91}N_5O_{21}$ | **1 mg** | **793.00** |

**Source:** semisynthetic, porcine RBC **Mol. Wt.:** 1145 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** DMSO, hot methanol, chloroform/methanol, 2:1
**Storage:** –20°C

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| | | | |
|---|---|---|---|
| **1632** | **N-Dodecanoyl-NBD-sulfatide** | **100 µg** | **119.00** |
| **1632-001** | N-C12:0-NBD-Sulfatide; N-Dodecanoyl-NBD-*lyso*-sulfatide; N-Dodecanoyl-NBD-sphingosyl-*beta*-D-galactoside-3-sulfate $C_{42}H_{71}N_5O_{14}S$ | **1 mg** | **526.00** |

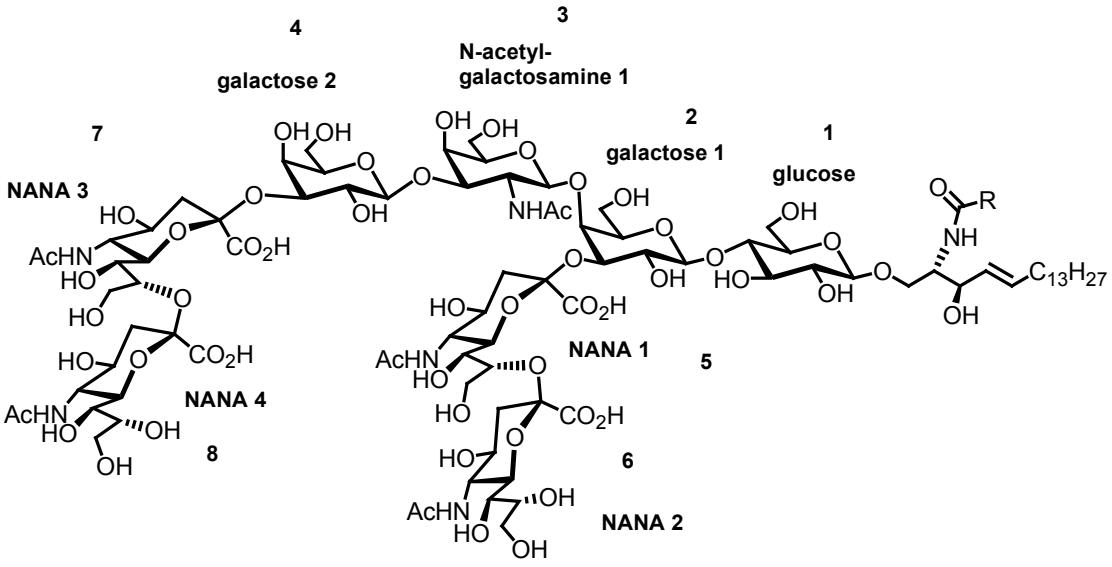
**Source:** semisynthetic, bovine **Mol. Wt.:** 901 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

**See Biochemicals and Reagents section (page 88) for additional fluorescent labeled products.**

**Compounds with fluorescent labels other than NBD are available on custom basis. Contact Technical service for more information.**

## Gangliosides

The diagram below can be used with the general formulas given in the ganglioside descriptions to construct the individual structures.

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|---|---|---|---|
| **1064** | **Gangliotetraosylceramide**<br>Asialo $GM_1$; Gg4 $C_{62}H_{114}N_2O_{23}$ **CAS#:** 71012-19-6<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 1256 (stearoyl) **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C<br><br>General formula: 1,2,3,4<br>See Table III (pg. 93-97) for fatty acid content | **1 mg** | **335.00** |
| **1512** | **Gangliotriosylceramide**<br>Asialo $GM_2$; Gg3 $C_{56}H_{104}N_2O_{18}$<br><br>**Source:** semisynthetic, human **Mol. Wt.:** 1093 (stearoyl) **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C<br><br>General formula: 1,2,3 | **100 µg** | **447.00** |
| **1061**<br>**1061-50** | **Monosialoganglioside $GM_1$ ($NH_4^+$ salt)**<br>$GM_1$ $C_{73}H_{131}N_3O_{31}•NH_3$ **CAS#:** 37758-47-7<br><br>**Source:** natural, bovine **Mol. Wt.:** 1547 + $NH_3$ (stearoyl) **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C<br><br>General formula: 1,2,3,4,5<br>See Table III (pg. 93-97) for fatty acid content | **5 mg**<br>**50 mg** | **249.00**<br>**1,995.00** |

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|---|---|---|---|
| **1518** | ***lyso*-Monosialoganglioside $GM_1$ ($NH_4^+$ salt)**<br>*lyso*-$GM_1$ $C_{55}H_{97}N_3O_{30}$ •$NH_3$ **CAS#:** 171483-40-2<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 1280 +$NH_3$ **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.2 **Storage:** –20°C | **500 µg** | **271.00** |
| **1526** | **Fucosylated monosialoganglioside $GM_1$ ($NH_4^+$ salt)**<br>Fucosyl-$GM_1$ $C_{79}H_{141}N_3O_{35}$•$NH_3$ **CAS#:** 71812-11-8<br><br>**Source:** natural, porcine **Mol. Wt.:** 1693 + $NH_3$ (stearoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C | **500 µg** | **494.00** |
| **2050** | **N-*omega*-$CD_3$-Octadecanoyl monosialoganglioside $GM_1$ ($NH_4^+$ salt)**<br>N-$CD_3$-Stearoyl $GM_1$, $C_{73}H_{128}N_3O_{31}D_3$ •$NH_3$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 1550 + $NH_3$ **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C | **0.5 mg** | **435.00** |
| **1502** | **Monosialoganglioside $GM_2$ ($NH_4^+$ salt)**<br>$GM_2$ $C_{67}H_{121}N_3O_{26}$•$NH_3$ **CAS#:** 19600-01-2<br><br>**Source:** natural, human Tay-Sachs **Mol. Wt.:** 1385+ $NH_3$ (stearoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C<br><br>General formula: 1,2,3,5<br>See Table III (pg. 93-97) for fatty acid content | **500 µg** | **231.00** |
| **2051** | **N-*omega*-$CD_3$-Octadecanoyl monosialoganglioside $GM_2$ ($NH_4^+$ salt)**<br>N-$CD_3$-Stearoyl $GM_2$ $C_{67}H_{118}D_3N_3O_{26}$•$NH_3$<br><br>**Source:** semisynthetic, human Tay-Sachs **Mol. Wt.:** 1388 + $NH_3$ **Purity:** 98+% by TLC, MS **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C | **250 µg** | **319.00** |
| **1503** | **Monosialoganglioside $GM_3$ ($NH_4^+$ salt)**<br>$GM_3$ $C_{64}H_{118}N_2O_{21}$•$NH_3$ **CAS#:** 54827-14-4<br><br>**Source:** natural, bovine buttermilk **Mol. Wt.:** 1252+ $NH_3$ (tricosanoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol, 2:1; forms micellar solution in water **Storage:** –20°C<br><br>General formula: 1,2,5<br>See Table III (pg. 93-97) for fatty acid content | **1 mg** | **127.00** |
| **2052** | **N-*omega*-$CD_3$-Octadecanoyl monosialoganglioside $GM_3$ ($NH_4^+$ salt)**<br>N-$CD_3$-Stearoyl $GM_3$ $C_{59}H_{105}D_3N_2O_{21}$•$NH_3$<br><br>**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 1185 + $NH_3$ **Purity:** 98+% by TLC, MS **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.2; forms micellar solution in water **Storage:** –20°C | **250 µg** | **290.00** |

**1535** **Monosialoganglioside GM4, egg ($NH_4^+$ salt)** **0.5 mg** **319.00**
$GM_4$ $C_{57}H_{106}N_2O_{17}•NH_3$ **CAS#:** 66456-69-7

**Source:** natural, egg, chicken **Mol. Wt.:** 1091+$NH_3$ (2-hydroxydocosanoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol, 2:1; forms micellar solution in water **Storage:** –20°C

General formula: 2,5
See Table III (pg. 93-97) for fatty acid content

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**1062** **Disialoganglioside $GD_{1a}$ ($NH_4^+$ salt)** **5 mg** **262.00**
$GD_{1a}$ $C_{84}H_{148}N_4O_{39}•2NH_3$ **CAS#:** 12707-58-3

**Source:** natural, bovine **Mol. Wt.:** 1838 + 2$NH_3$ (stearoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C

General formula: 1,2,3,4,5,7
See Table III (pg. 93-97) for fatty acid content

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**1501** **Disialoganglioside $GD_{1b}$ ($NH_4^+$salt)** **1 mg** **199.00**
$GD_{1b}$ $C_{84}H_{148}N_4O_{39}•2NH_3$ **CAS#:** 19553-76-5

**Source:** natural, bovine **Mol. Wt.:** 1838+ 2$NH_3$ (stearoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C

General formula: 1,2,3,4,5,6
See Table III (pg. 93-97) for fatty acid content

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**1527** **Disialoganglioside $GD_2$ ($NH_4^+$salt)** **0.5 mg** **579.00**
$GD_2$ $C_{78}H_{138}N_4O_{34}•2NH_3$ **CAS#:** 65988-71-8

**Source:** semisynthetic, rabbit **Mol. Wt.:** 1676 + 2$NH_3$ (stearoyl) **Purity:** 98+% by TLC, MS **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C

General formula: 1,2,3,5,6

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**1504** **Disialoganglioside $GD_3$ ($NH_4^+$ salt)** **5 mg** **248.00**
$GD_3$ $C_{75}H_{135}N_3O_{29}•2NH_3$ **CAS#:** 62010-37-1

**Source:** natural, bovine buttermilk **Mol. Wt.:** 1543+2$NH_3$ (tricosanoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol, 2:1; forms micellar solution in water **Storage:** –20°C

General formula: 1,2,5,6
See Table III (pg. 93-97) for fatty acid content

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**1063** **Trisialoganglioside $GT_{1b}$ ($NH_4^+$ salt)** **5 mg** **319.00**
$GT_{1b}$ $C_{95}H_{165}N_5O_{47}•3NH_3$ **CAS#:** 59247-13-1

**Source:** natural, bovine **Mol. Wt.:** 2129 + 3$NH_3$ (stearoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C

General Formula: 1,2,3,4,5,6,7
See Table III (pg. 93-97) for fatty acid content

**1516** **Tetrasialoganglioside $GQ_{1b}$ ($NH_4^+$ salt)** **100 µg** **169.00**

$GQ_{1b}$ $C_{106}H_{182}N_6O_{55}•4NH_3$ **CAS#:** 68652-37-9

**Source:** natural, bovine **Mol. Wt.:** 2421+4$NH_3$ (stearoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C

General formula: 1,2,3,4,5,6,7,8
See Table III (pg. 93-97) for fatty acid content

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**1065** **Mixed Gangliosides, purified, bovine ($NH_4^+$ salt)** **25 mg** **193.00**

Mixed Gangliosides

**Source:** natural, bovine **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
**Storage:** –20°C

Approximately 98% $GM_1$, $GD_{1a}$, $GD_{1b}$ and $GT_{1b}$, remaining 2% other gangliosides
See Table III (pg. 93-97) for fatty acid content

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**1525** **Mixed Gangliosides, purified, porcine, ($NH_4^+$ salt)** **25 mg** **226.00**

**Source:** natural, porcine **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
**Storage:** –20°C

Approximately 98% $GM_1$, $GD_{1a}$, $GD_{1b}$ and $GT_{1b}$, remaining 2% other gangliosides

## Glycosphingolipid Reference Mixtures for TLC

These mixtures are qualitative standards prepared from our purified glycosphingolipids.

**1505** **Neutral Glycosphingolipid Mixture** **1 mg/ml, 1 ml** **136.00**

**Source:** natural, bovine and porcine **Appearance:** liquid
**Solvent:** chloroform/methanol, 2:1 **Solubility:** chloroform/methanol, 2:1
**Storage:** –20°C

Contains: cerebrosides, lactosylceramides, ceramide trihexosides, globosides

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**1508** **Monosialoganglioside Mixture** **0.5 mg/ml, 1 ml** **136.00**

**Source:** natural, bovine, human **Appearance:** liquid
**Solvent:** chloroform/methanol/DI water, 2:1:0.1 **Solubility:** chloroform/methanol/DI water, 2:1:0.1 **Storage:** –20°C

Contains: $GM_3$, $GM_2$, $GM_1$

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**1509** **Disialoganglioside Mixture** **0.5 mg/ml, 1 ml** **147.00**

**Source:** natural, bovine **Appearance:** liquid **Solvent:** chloroform/methanol/DI water, 2:1:0.1 **Solubility:** chloroform/methanol/DI water, 2:1:0.1 **Storage:** –20°C

Contains: $GD_3$, $GD_{1a}$, $GD_{1b}$

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|---|---|---|---|
| **1510** | **Lactosylceramide and Sialosyl Derivatives Mixture** | **0.5 mg/ml, 1 ml** | **169.00** |

**Source:** natural, bovine buttermilk **Appearance:** liquid
**Solvent:** chloroform/methanol/DI water, 2:1:0.1 **Solubility:** chloroform/methanol/DI water, 2:1:0.1 **Storage:** –20°C

Contains: LC, $GM_3$, $GD_3$

| | | | |
|---|---|---|---|
| **1511** | **Gangliotetraosylceramide and Sialosyl Derivatives Mixture** | **0.5 mg/ml, 1 ml** | **126.00** |

**Source:** natural, bovine **Appearance:** liquid **Solvent:** chloroform/methanol/DI water, 2:1:0.1 **Solubility:** chloroform/methanol/DI water, 2:1:0.1 **Storage:** –20°C

Contains: asialo $GM_1$, $GM_1$, $GD_{1a}$, $GD_{1b}$, $GT_{1b}$

## Antibodies Directed Against Glycolipids

These monoclonal and polyclonal antibodies are directed against the carbohydrate chains of Matreya's glycolipids. The same carbohydrate moieties are found on many glycoproteins. The antibodies are for use in ELISA or TLC immunoblotting applications (9). All antibodies are quality tested by actual performance in ELISA and TLC immunoblotting. The antibodies contain no preservatives and are shipped on dry ice.
**See Literature References on page 99.**

| | | | |
|---|---|---|---|
| **1977** | **Anti-ganglioside $GD_3$**<br>Monoclonal antibody to $GD_3$, isotype IgG/IgM | **50 µl** | **271.00** |

**Source:** natural, mouse hybridoma R-24 cell line **Appearance:** liquid
**Solubility:** DI water **Storage:** –20°C
**Dry Ice Charge Applies**

Suitable for TLC immunoblotting, ELISA

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|---|---|---|---|
| **1950** | **Anti-ganglioside asialo $GM_1$**<br>Polyclonal antibody to asialo $GM_1$, isotype IgG/IgM | **100 µl** | **342.00** |

**Source:** natural, rabbit **Appearance:** liquid **Solubility:** DI water **Storage:** –20°C
**Dry Ice Charge Applies**

Suitable for ELISA, TLC-immunoblotting. Slight cross reaction to $GM_1$

| | | | |
|---|---|---|---|
| **1951** | **Anti-ganglioside asialo $GM_2$**<br>Polyclonal antibody to asialo $GM_2$, isotype IgG/IgM | **50 µl** | **271.00** |

**Source:** natural, rabbit **Appearance:** liquid **Solubility:** DI water **Storage:** –20°C
**Dry Ice Charge Applies**

Suitable for ELISA, TLC-immunoblotting

| | | | |
|---|---|---|---|
| **1954** | **Anti-ganglioside $GM_1$**<br>Polyclonal antibody to $GM_1$, isotype IgG/IgM | **100 µl** | **271.00** |

**Source:** natural, rabbit **Appearance:** liquid **Solubility:** DI water **Storage:** –20°C
**Dry Ice Charge Applies**

Suitable for ELISA, TLC-immunoblotting. Slight cross reaction to asialo-$GM_1$

| | | | |
|---|---|---|---|
| **1961** | **Anti-ganglioside $GM_2$ (NANA)**<br>Polyclonal antibody to $GM_2$ (NANA), isotype IgG/IgM<br><br>**Source:** natural, rabbit **Appearance:** liquid **Solubility:** DI water **Storage:** –20°C<br>**Dry Ice Charge Applies**<br><br>Suitable for ELISA, TLC-immunoblotting | **50 µl** | **271.00** |
| **1957** | **Anti-ganglioside $GM_4$**<br>Polyclonal antibody to $GM_4$, isotype IgG/IgM<br><br>**Source:** natural, rabbit **Appearance:** liquid **Solubility:** DI water **Storage:** –20°C<br>**Dry Ice Charge Applies**<br><br>Suitable for ELISA, TLC-immunoblotting | **50 µl** | **271.00** |
| **1963** | **Anti-ganglioside $GD_2$**<br>Polyclonal antibody to $GD_2$, isotype IgG/IgM<br><br>**Source:** natural, rabbit **Appearance:** liquid **Solubility:** DI water **Storage:** –20°C<br>**Dry Ice Charge Applies**<br><br>Suitable for ELISA, TLC-immunoblotting | **50 µl** | **285.00** |
| **1964** | **Anti-ganglioside $GD_{1b}$**<br>Polyclonal antibody to $GD_{1b}$, isotype IgG/IgM<br><br>**Source:** natural, rabbit **Appearance:** liquid **Solubility:** DI water **Storage:** –20°C<br>**Dry Ice Charge Applies**<br><br>Suitable for ELISA, TLC-immunoblotting | **50 µl** | **285.00** |
| **1960** | **Anti-globoside GL-4**<br>Polyclonal antibody to GL-4, isotype IgG/IgM<br><br>**Source:** natural, rabbit **Appearance:** liquid **Solubility:** DI water **Storage:** –20°C<br>**Dry Ice Charge Applies**<br><br>Suitable for ELISA, TLC-immunoblotting | **50 µl** | **271.00** |

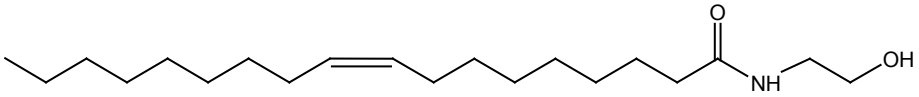
Ceramide: UDPglucose Transferase. PDMP (D,L-*threo*-1-phenyl-2-decanoylamino-3-morpholino-1-propanol-HCl) closely resembles the natural sphingolipid substrate of brain glucosyl transferase and is a very potent and competitive inhibitor of the enzyme (26). It has been shown to block outgrowth of neurites in cultured retina and to block glucolipid synthesis in cultured 3T3 cells (27). N.S. Radin and co-workers have shown (28) that PPMP has activity equivalent to that of PDMP when cell homogenates and brain and liver microsomes are used, but it is about 20 times more potent when used with intact cells. In another paper (29), Radin's group has shown that PDMP has substantial activity against Ehrlich ascites tumors in mice. Recent publications from the laboratory of Myles Cabot (30, 31) show that PPMP can reverse multi-drug resistance in cancer cells by causing a build-up of ceramide and preventing the synthesis of glycosylated ceramides. **See Literature References on page 99.**

Matreya also offers the resolved D- and L-*threo*-isomers of PDMP and PPMP.

Protein Kinase C Inhibitor. Sphingosine is a potent and reversible inhibitor of protein kinase C (32); it also has been shown at low concentrations to stimulate DNA synthesis and act synergistically with known growth factors (33). Note that Safingol (our L-*threo*-dihydrosphingosine) has also been shown to partially reverse multi-drug resistance in cancer cells (31) *via* inhibition of protein kinase C.

Dihydroceramide desaturase Inhibitor. Cyclopropenylceramide is the first known inhibitor of this enzyme and may allow significant studies on the role of ceramide in apoptosis. Matreya is the only source for this inhibitor. (34)

Ceramidase Inhibitors. N-Oleoylethanolamine has been shown to be an efficacious inhibitor of the ceramidase found in human kidney and cerebellum (35). It is specifically an inhibitor of acid ceramidase (36) with an $IC_{50}$ of ca. 500 µM. N-Hexadecanoylethanolamine can be used as an inactive control. D-MAPP is a potent ($IC_{50}$ approximately 5 µM) inhibitor of alkaline ceramidase. Its enantiomer L-MAPP is inactive as an inhibitor and acts as a substrate for this enzyme (36, 37). **See Literature References on page 99.**




Catalog number 1751

**1751** **N-Oleoylethanolamine** **100 mg** **163.00**
NOE $C_{20}H_{39}NO_2$ **CAS#:** 111-58-0

**Source:** synthetic **Mol. Wt.:** 326 **Melting Point (°C):** 63-66 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol, ethyl ether, DMSO **Storage:** –20°C

Activity: acid ceramidase inhibitor

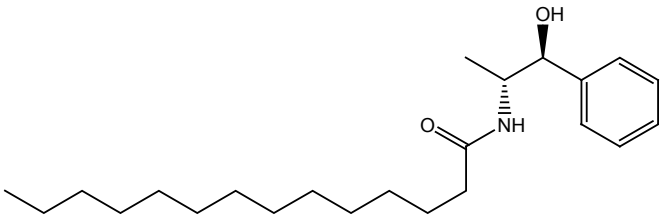
**1786** **N-Hexadecanoylethanolamine** **100 mg** **114.00**
$C_{18}H_{37}NO_2$ **CAS#** 544-31-0

**Source:** synthetic **Mol. Wt.:** 299 **Melting Point (°C):** 99-102 **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol, DMSO **Storage:** –20°C

Activity: inactive as acid ceramidase inhibitor

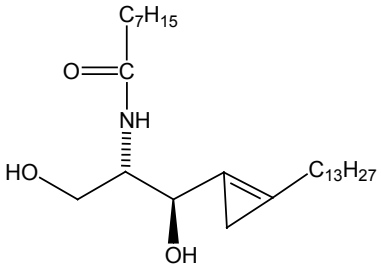
**1807** **L-*threo*-Dihydrosphingosine (Safingol)** **5 mg** **174.00**
**1807-025** L-*threo*-Sphinganine, C18 chain $C_{18}H_{39}NO_2$ **CAS#:** 15639-50-6 **25 mg** **556.00**

**Source:** synthetic **Mol. Wt.:** 301 **Melting Point (°C):** 103-114 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C



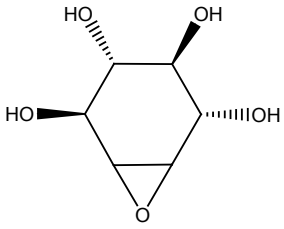

Catalog number 1859

| | | | |
|---|---|---|---|
| **1859** | **D-MAPP**<br>D-*erythro*-2-Tetradecanoylamino-1-phenyl-1-propanol $C_{23}H_{39}NO_2$<br>**CAS#:** 143492-39-1<br><br>**Source:** synthetic **Mol. Wt.:** 361 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** ethanol **Storage:** –20°C<br><br>Activity: alkaline ceramidase inhibitor | **100 mg** | **154.00** |
| **1860** | **L-MAPP**<br>L-*erythro*-2-Tetradecanoylamino-1-phenyl-1-propanol $C_{23}H_{39}NO_2$<br>**CAS#:** 143492-38-0<br><br>**Source:** synthetic **Mol. Wt.:** 361 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** ethanol **Storage:** –20°C<br><br>Activity: inactive as alkaline ceramidase inhibitor | **100 mg** | **154.00** |




Catalog number: 1886

| | | | |
|---|---|---|---|
| **1886** | **N-C8:0-Cyclopropenylceramide** | **1 mg** | **194.00** |
| **1886-005** | N-C8:0-CPPC; N-[(1R, 2S)-2-Hydroxy-1-hydroxymethyl-2-(2-tridecyl-1-cyclopropenyl) ethyl] octanamide; $GT_{11}$ $C_{27}H_{51}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 438 **Melting Point (°C):** 69-70 **Purity:** 98+% by $^1$H NMR; HPLC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol<br>**Storage:** –20°C<br><br>Activity: Dihydroceramide desaturase inhibitor | **5 mg** | **724.00** |
| **1887** | **N-C16:0-Cyclopropenylceramide** | **1 mg** | **197.00** |
| **1887-005** | N-C16:0-CPPC; N-[(1R, 2S)-2-Hydroxy-1-hydroxymethyl-2-(2-tridecyl-1-cyclopropenyl) ethyl] hexadecamide $C_{35}H_{67}NO_3$<br><br>**Source:** synthetic **Mol. Wt.:** 550 **Melting Point (°C):** 156-157 **Purity:** 98+% by $^1$H NMR; HPLC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol<br>**Storage:** –20°C<br><br>Activity: Dihydroceramide desaturase inhibitor | **5 mg** | **724.00** |




Catalog number 1889

**1889** **Conduritol B Epoxide** **25 mg** **195.00**
$C_6H_{10}O_5$ **CAS#:** 6090-95-5

**Source:** synthetic **Mol. Wt.:** 162 **Melting Point (°C):** 164-166 **Purity:** 98+% by TLC, NMR **Appearance:** solid **Solubility:** DI water, DMSO, methanol (slightly) **Storage:** –20°C

Inhibits α-and β-glucosidase activity; specific inhibitor of glucocerebrosidase in cultured cells.

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**1719** **D,L-*threo*-PDMP** **100 mg** **184.00**
D,L-*threo*-1-Phenyl-2-decanoylamino-3-morpholino-1-propanol•HCl
$C_{23}H_{38}N_2O_3$•HCl **CAS#:** 80938-69-8

**Source:** synthetic **Mol. Wt.:** 427 **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** ethanol, methanol, chloroform, DMSO **Storage:** –20°C

Activity: glucosylceramide synthase inhibitor

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**1720** **D,L-*threo*-PPMP** **100 mg** **184.00**
D,L-*threo*-l-Phenyl-2-hexadecanoylamino-3-morpholino-1-propanol•HCl
$C_{29}H_{50}N_2O_3$•HCl **CAS#:** 149022-18-4

**Source:** synthetic **Mol. Wt.:** 511 **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** alcohols, chloroform **Storage:** –20°C

Activity: glucosylceramide synthase inhibitor

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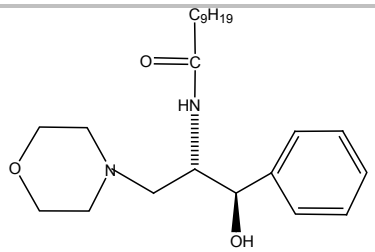


Catalog number 1749

**1749** **L-*threo*-PDMP** **10 mg** **250.00**
L-*threo*-1-Phenyl-2-decanoylamino-3-morpholino-1-propanol•HCl
$C_{23}H_{38}N_2O_3$•HCl **CAS#:** 109836-81-9

**Source:** synthetic **Mol. Wt.:** 427 **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** ethanol, methanol **Storage:** –20°C

**1753** **D,L-*erythro*-PPMP** **100 mg** **169.00**
D,L-*erythro*-1-Phenyl-2-hexadecanoylamino-3-morpholino-1-propanol•HCl
$C_{29}H_{50}N_2O_3$•HCl

**Source:** synthetic **Mol. Wt.:** 511 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** chloroform, ethanol, methanol, DSMO **Storage:** –20°C

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**1755** **D,L-*erythro*-PDMP** **100 mg** **169.00**
D,L-*erythro*-1-Phenyl-2-decanoylamino-3-morpholino-1-propanol•HCl
$C_{23}H_{38}N_2O_3$•HCl **CAS#:** 109760-77-2

**Source:** synthetic **Mol. Wt.:** 427 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** chloroform, ethanol, methanol, DSMO **Storage:** –20°C

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**1756** **D-*threo*-PDMP** **10 mg** **250.00**
D-*threo*-1-Phenyl-2-decanoylamino-3-morpholino-1-propanol•HCl
$C_{23}H_{38}N_2O_3$•HCl **CAS#:** 109836-82-0

**Source:** synthetic **Mol. Wt.:** 427 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** ethanol, methanol **Storage:** –20°C

Activity: glucosylceramide synthase inhibitor

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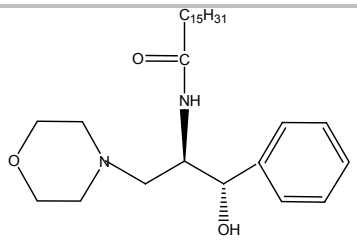


Catalog number 1865

**1865** **D-*threo*-PPMP** **10 mg** **250.00**
D-*threo*-1-Phenyl-2-hexadecanoylamino-3-morpholino-1-propanol•HCl
$C_{29}H_{50}N_2O_3$•HCl

**Source:** synthetic **Mol. Wt.:** 511 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** ethanol, methanol **Storage:** –20°C

Activity: glucosyl ceramide synthase inhibitor

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**1868** **L-*threo*-PPMP** **10 mg** **250.00**
L-*threo*-1-Phenyl-2-hexadecanoylamino-3-morpholino-1-propanol•HCl
$C_{29}H_{50}N_2O_3$•HCl

**Source:** synthetic **Mol. Wt.:** 511 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** ethanol, methanol **Storage:** –20°C

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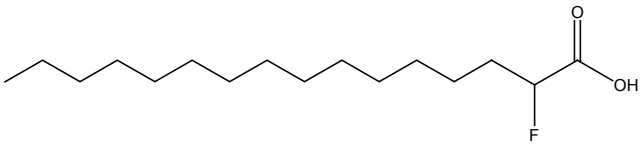
**1800** **Castanospermine** **25 mg** **65.00**
1,6,7,8-Tetrahydroxyoctahydroindolizine $C_8H_{15}NO_4$ **CAS#:** 79831-76-8

**Source:** natural, plant **Mol. Wt.:** 189 **Melting Point (°C):** 210-215 **Purity:** 98+% by TLC, NMR **Appearance:** solid **Solubility:** DI water, methanol/DI water, 90:10
**Storage:** –20°C




Catalog number 1717

**1717** **2-Fluoropalmitic acid** **25 mg** **162.00**
$C_{16}H_{31}FO_2$ **CAS#:** 89270-22-4

**Source:** synthetic **Mol. Wt.:** 274 **Melting Point (°C):** 83-85 **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

Activity: Acyl-CoA synthase inhibitor

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**1718** **Methyl 2-fluoropalmitate** **10 mg** **162.00**
$C_{17}H_{33}FO_2$

**Source:** synthetic **Mol. Wt.:** 288 **Melting Point (°C):** 36-38 **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

Activity: inactive ester of 2-fluoropalmitic acid

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**1750** **2,2-Difluoropalmitic acid** **25 mg** **147.00**
$C_{16}H_{30}F_2O_2$

**Source:** synthetic **Mol. Wt.:** 292 **Melting Point (°C):** 50.8-53 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

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**1858** **2-Acetyl-4-(1R, 2S, 3R, 4-tetrahydroxybutyl)-imidazole** **1 mg** **176.00**
THI $C_9H_{14}N_2O_5$ **CAS#:** 94944-70-4

**Source:** synthetic **Mol. Wt.:** 230 **Melting Point (°C):** n/a **Purity:** 99% by HPLC, MS, NMR **Appearance:** solid **Solubility:** DI water **Storage:** –20°C

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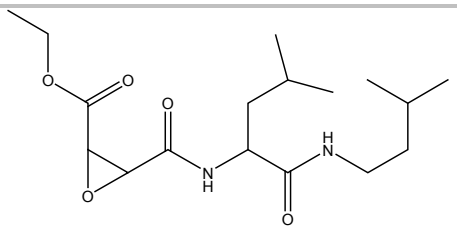



Catalog number 1752

**1752** **EST** **5 mg** **319.00**
E-64-d; Loxastatin $C_{17}H_{30}N_2O_5$ **CAS#:** 88321-09-9

**Source:** synthetic **Mol. Wt.:** 342 **Melting Point (°C):** 125-127 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

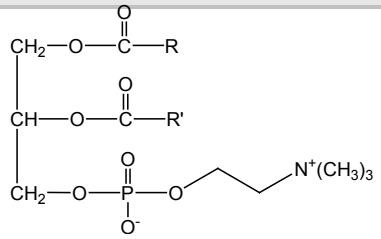
Activity: cystein protease inhibitor

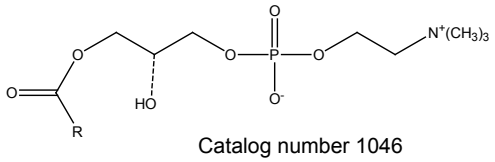
# Glycerolipids

## Glycerophospholipids

### Natural Phospholipids

Catalog number 1044





Catalog number 1046

**1044** **Lecithin** **50 mg/ml, 1 ml** **50.00**
Phosphatidylcholine; PC $C_{44}H_{84}NO_8P$ **CAS#:** 8002-43-5

**Source:** natural, chicken, egg **Mol. Wt.:** 787 (oleoyl) **Purity:** 98+% by TLC
**Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform, ethyl ether, ethanol
**Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

**1070** **Lecithin** **50 mg/ml, 1 ml** **174.00**
Phosphatidylcholine; PC $C_{44}H_{84}NO_8P$ **CAS#:** 8002-43-5

**Source:** natural, bovine **Mol. Wt.:** 787 (oleoyl) **Purity:** 98+% by TLC
**Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform, ethyl ether
**Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

**1302** **Lecithin** **50 mg/ml, 1 ml** **86.00**
Phosphatidylcholine; PC $C_{44}H_{80}NO_8P$ **CAS#:** 8002-43-5

**Source:** natural, plant **Mol. Wt.:** 782 (linoleoyl) **Purity:** 98+% by TLC
**Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform, ethyl ether
**Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

**1046** ***lyso*-Lecithin** **50 mg** **85.00**
*lyso*-Phosphatidylcholine $C_{24}H_{50}NO_7P$ **CAS#:** 9008-30-4

**Source:** semisynthetic, chicken, egg **Mol. Wt.:** 496 (palmitoyl) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

**1047** **Phosphatidylserine** **50 mg/ml, 1 ml** **197.00**
PS $C_{42}H_{78}NO_{10}P$

**Source:** natural, bovine **Mol. Wt.:** 788 (oleoyl) **Purity:** 98+% by TLC
**Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform, toluene
**Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

**1048** **Phosphatidylinositol ($Na^+$ salt)** **10 mg/ml, 1 ml** **126.00**
PI $C_{45}H_{78}O_{13}P•Na$ **CAS#** 383907-36-6

**Source:** natural, plant **Mol. Wt.:** 858 + Na (linoleoyl) **Purity:** 98+% by TLC
**Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform, ethyl ether
**Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

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**1336** **Phosphatidylinositol, plant, soy, (Na salt)** **50 mg/ml, 1ml** **328.00**
$C_{46}H_{80}O_{13}P•Na$ **CAS#** 383907-36-6

**Source:** natural, plant, soy **Mol. Wt.:** 872 +Na (linoleoyl) **Purity:** 98+% by TLC
**Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform, ethyl ether
**Storage:** –20°C

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**1053** **Phosphatidic acid ($NH_4^+$ salt)** **50 mg** **111.00**
PA $C_{39}H_{72}O_8P•NH_4^+$

**Source:** semisynthetic, chicken, egg **Mol. Wt.:** 718 (oleoyl, $NH_4^+$) **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform, ethyl ether **Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

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**1045** **Phosphatidylethanolamine** **50 mg/ml, 1 ml** **151.00**
PE $C_{41}H_{78}NO_8P$ **CAS#:** 39382-08-6

**Source:** natural, chicken, egg **Mol. Wt.:** 744 (oleoyl) **Purity:** 98+% by TLC
**Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform **Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

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**1069** **Phosphatidylethanolamine** **50 mg/ml, 1 ml** **219.00**
PE $C_{41}H_{78}NO_8P$ **CAS#:** 90989-93-8

**Source:** natural, bovine **Mol. Wt.:** 744 (oleoyl) **Purity:** 98+% by TLC **Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform **Storage:** –20°C

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**1301** **Phosphatidylethanolamine** **50 mg/ml, 1 ml** **133.00**
PE $C_{41}H_{74}NO_8P$ **CAS#:** 90989-93-8

**Source:** natural, plant **Mol. Wt.:** 740 (linoleoyl) **Purity:** 98+% by TLC
**Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform **Storage:** –20°C

See Table III (pg. 93-97) for fatty acid content

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**1052** **Phosphoglycerides Kit** **1 each** **503.00**

**Source:** natural, chicken egg, bovine, plant **Purity:** 98+% by TLC **Appearance:** liquid/solid **Solvent:** various **Storage:** –20°C

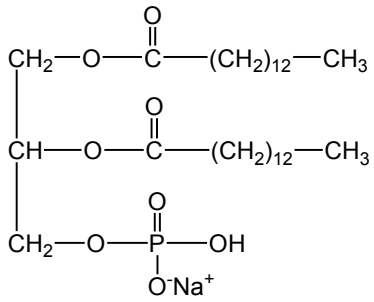
Individually packed in ampules and vials (Purity 98+%): Phosphatidic acid $NH_4^+$ salt 10mg; Phosphatidylethanolamine, egg (in 1 ml $CHCl_3$) 10mg; Sphingomyelin, bovine 10mg; Phosphatidylserine, bovine ( in 1 ml $CHCl_3$) 10 mg; Lecithin, egg (in 1 ml $CHCl_3$) 10 mg; lyso-Lecithin, egg 10 mg; Cerebrosides, bovine 10mg; Sulfatides, bovine 10mg; Phosphatidylinositol, $Na^+$salt, plant ( in 1 ml $CHCl_3$) 3mg

## Synthetic Phospholipids

These phospholipids have 98+% chemical purity except where stated and 99% fatty acid chain purity. Store at -20° C. Solubility: see individual entries

### Phosphatidic acid derivatives

Catalog number 1428



**1428** **1,2-Dimyristoyl-sn-glycero-3-phosphatidic acid ($Na^+$ salt)** **100 mg** **64.00**
DMPA $C_{31}H_{60}O_8P•Na$ **CAS#:** 80724-31-8

**Source:** synthetic **Mol. Wt.:** 615 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** chloroform/methanol/acetic acid, 4:1:0.1 **Storage:** –20°C

**1429** **1,2-Dipalmitoyl-sn-glycero-3-phosphatidic acid ($Na^+$ salt)** **100 mg** **64.00**
DPPA $C_{35}H_{68}O_8P•Na$ **CAS#:** 71065-87-7

**Source:** synthetic **Mol. Wt.:** 671 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** chloroform/methanol/acetic acid, 4:1:0.1 **Storage:** –20°C

**1430** **1,2-Distearoyl-sn-glycero-3-phosphatidic acid ($Na^+$ salt)** **100 mg** **64.00**
DSPA $C_{39}H_{76}O_8P•Na$ **CAS#:** 108321-18-2

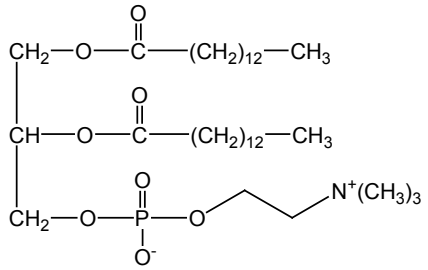
**Source:** synthetic **Mol. Wt.:** 727 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** chloroform/methanol/acetic acid, 4:1:0.1 **Storage:** –20°C

## Phosphatidylcholines

**1442** **1,2-Dilauroyl-sn-glycero-3-phosphorylcholine** **100 mg** **64.00**
DLPC $C_{32}H_{64}NO_8P$ **CAS#:** 18194-25-7

**Source:** synthetic **Mol. Wt.:** 622 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** methylene chloride, methanol **Storage:** –20°C

Catalog number 1425



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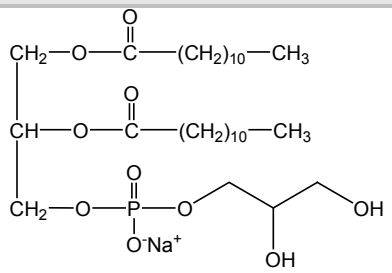
|---|---|---|---|
| **1425** | **1,2-Dimyristoyl-sn-glycero-3-phosphorylcholine**<br>DMPC $C_{36}H_{72}NO_8P$ **CAS#:** 18194-24-6<br><br>**Source:** synthetic **Mol. Wt.:** 678 **Purity:** 98+% by TLC **Appearance:** solid<br>**Melting Point:** 130-139°C **Solubility:** methylene chloride, methanol **Storage:** –20°C | **100 mg** | **64.00** |
| **1426** | **1,2-Dipalmitoyl-sn-glycero-3-phosphorylcholine**<br>DPPC $C_{40}H_{80}NO_8P$ **CAS#:** 63-89-8<br><br>**Source:** synthetic **Mol. Wt.:** 734 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** methylene chloride, methanol **Storage:** –20°C | **100 mg** | **64.00** |
| **1400** | **1,2-Diheptadecanoyl-sn-glycero-3-phosphorylcholine**<br>DHDPC $C_{42}H_{84}NO_8P$ **CAS#:** 70897-27-7<br><br>**Source:** synthetic **Mol. Wt.:** 762 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** methylene chloride, methanol **Storage:** –20°C | **50 mg** | **63.00** |
| **1427** | **1,2-Distearoyl-sn-glycero-3-phosphorylcholine**<br>DSPC $C_{44}H_{88}NO_8P$ **CAS#:** 816-94-4<br><br>**Source:** synthetic **Mol. Wt.:** 790 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** methylene chloride, methanol **Storage:** –20°C | **100 mg** | **64.00** |
| **1437** | **1-Palmitoyl-2-oleoyl-sn-glycero-3-phosphorylcholine**<br>POPC $C_{42}H_{82}NO_8P$ **CAS#:** 26853-31-6<br><br>**Source:** synthetic **Mol. Wt.:** 760 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** methylene chloride, methanol **Storage:** –20°C | **100 mg** | **83.00** |
| **1445** | **1-Palmitoyl-sn-glycero-3-phosphorylcholine**<br>*lyso*-PPC $C_{24}H_{50}NO_7P$ **CAS#:** 17364-16-8<br><br>**Source:** synthetic **Mol. Wt.:** 496 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** methylene chloride, methanol **Storage:** –20°C | **100 mg** | **83.00** |
| **1409** | **1-Stearoyl-2-linoleoyl-sn-glycero-3-phosphorylcholine**<br>$C_{44}H_{84}NO_8P$<br><br>**Source:** synthetic **Mol. Wt.:** 786 **Purity:** 98+% by TLC **Appearance:** liquid<br>**Solvent:** chloroform **Solubility:** chloroform, ethanol **Storage:** –20°C | **25 mg/ml, 1ml** | **204.00** |

| | | | |
|---|---|---|---|
| **1410** | **1-Stearoyl-2-[9(Z),11(E)-octadecadienoyl]-sn-glycero-3-phosphorylcholine**<br>$C_{44}H_{84}NO_8P$<br>**Source:** synthetic **Mol. Wt.:** 786 **Purity:** 98+% by TLC **Appearance:** liquid<br>**Solvent:** chloroform **Solubility:** chloroform, ethanol **Storage:** –20°C | **25 mg/ml, 1ml** | **204.00** |
| **1411** | **1-Stearoyl-2-[10(E),12(Z)-octadecadienoyl]-sn-glycero-3-phosphorylcholine**<br>$C_{44}H_{84}NO_8P$<br>**Source:** synthetic **Mol. Wt.:** 786 **Purity:** 98+% by TLC **Appearance:** liquid<br>**Solvent:** chloroform **Solubility:** chloroform, ethanol **Storage:** –20°C | **25 mg/ml, 1ml** | **204.00** |

## Phosphatidylglycerols

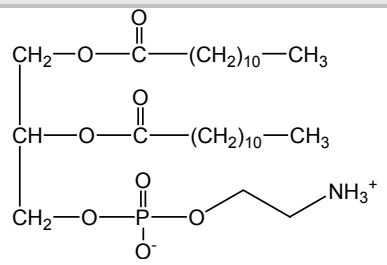
Catalog number 1443



| | | | |
|---|---|---|---|
| **1443** | **1,2-Dilauroyl-sn-glycero-3-phosphorylglycerol ($Na^+$ salt)**<br>DLPG $C_{30}H_{58}O_{10}P•Na$ **CAS#:** 73548-69-3<br>**Source:** synthetic **Mol. Wt.:** 632 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C | **100 mg** | **64.00** |
| **1431** | **1,2-Dimyristoyl-sn-glycero-3-phosphorylglycerol ($Na^+$ salt)**<br>DMPG $C_{34}H_{66}O_{10}P•Na$ **CAS#:** 200880-40-6<br>**Source:** synthetic **Mol. Wt.:** 689 **Purity:** 98+% by TLC **Appearance:** solid<br>**Melting Point:** 120-129°C **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C | **100 mg** | **64.00** |
| **1432** | **1,2-Dipalmitoyl-sn-glycero-3-phosphorylglycerol ($Na^+$ salt)**<br>DPPG $C_{38}H_{74}O_{10}P•Na$ **CAS#:** 200880-41-7<br>**Source:** synthetic **Mol. Wt.:** 745 **Purity:** 98+% by TLC **Appearance:** solid<br>**Melting Point:** 122-127°C **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C | **100 mg** | **64.00** |
| **1433** | **1,2-Distearoyl-sn-glycero-3-phosphorylglycerol ($Na^+$ salt)**<br>DSPG $C_{42}H_{82}O_{10}P•Na$ **CAS#:** 4537-78-4<br>**Source:** synthetic **Mol. Wt.:** 801 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C | **100 mg** | **64.00** |
| **1438** | **1-Palmitoyl-2-oleoyl-sn-glycero-3-phosphorylglycerol ($Na^+$ salt)**<br>POPG $C_{40}H_{76}O_{10}P•Na$ **CAS#:** 202070-86-8<br>**Source:** synthetic **Mol. Wt.:** 771 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C | **100 mg** | **138.00** |

## Phosphatidylethanolamines

Catalog number 1444

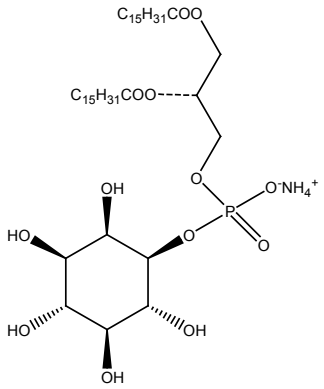


| | | | |
|---|---|---|---|
| **1444** | **1,2-Dilauroyl-sn-glycero-3-phosphorylethanolamine**<br>DLPE $C_{29}H_{58}NO_8P$ **CAS#:** 42436-56-6<br><br>**Source:** synthetic **Mol. Wt.:** 580 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform + methanol mixture **Storage:** –20°C | **100 mg** | **70.00** |
| **1434** | **1,2-Dimyristoyl-sn-glycero-3-phosphorylethanolamine**<br>DMPE $C_{33}H_{66}NO_8P$ **CAS#** 998-07-2<br><br>**Source:** synthetic **Mol. Wt.:** 636 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform/acetic acid, 95:5; chloroform/methanol/DI water/acetic acid, 100:30:10:2.5 **Storage:** –20°C | **100 mg** | **70.00** |
| **1435** | **1,2-Dipalmitoyl-sn-glycero-3-phosphorylethanolamine**<br>DPPE $C_{37}H_{74}NO_8P$ **CAS#:** 923-61-5<br><br>**Source:** synthetic **Mol. Wt.:** 692 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform/acetic acid, 95:5; chloroform/methanol/DI water/acetic acid, 100:30:10:2.5 **Storage:** –20°C | **100 mg** | **70.00** |
| **1436** | **1,2-Distearoyl-sn-glycero-3-phosphorylethanolamine**<br>DSPE $C_{41}H_{82}NO_8P$ **CAS#:** 1069-79-0<br><br>**Source:** synthetic **Mol. Wt.:** 748 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform/acetic acid, 95:5; chloroform/methanol/DI water/acetic acid, 100:30:10:2.5 **Storage:** –20°C | **100 mg** | **70.00** |
| **1439** | **1,2-Distearoyl-phosphatidylethanolamine-methyl-polyethyleneglycol conjugate-2000 ($Na^+$ salt)**<br>DSPE-MPEG-2000 **CAS#:** 147867-65-0<br><br>**Source:** synthetic **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform<br>**Storage:** –20°C | **100 mg** | **108.00** |

## Phosphatidylinositols

The metabolism of inositol lipids is involved in the signal transduction of many hormones, neurotransmitters and growth factors (1, 2). In the classical pathway, phosphatidylinositol-specific phospholipase C (PI-PLC) hydrolyzes phosphatidyl 4,5-biphosphate ($PIP_2$) to yield 1,2-diacylglycerol (DAG) and inositol 1,4,5-triphosphate ($IP_3$). The role of $IP_3$ and DAG as second messengers is well recognized.

In a second, more recently discovered pathway, the activation of phosphoinositide (PI) 3-kinase results in the formation of three novel phosphatidyl (PI) lipids phosphorylated at the D3 position of the inositol ring: PI-3-P, PI-3,4-$P_2$ and PI-3,4,5-$P_3$ (3). These D3 lipids are not known substrates for any of the phospholipase C enzymes and function as second messengers. PI 3-kinase activity is correlated with many cellular processes, including the regulation of cell growth, oncogenic transformation, chemotaxis and receptor down-regulation among others (4, 5, 7). The recent paper on the effect of PI3,4-P2 on the *Akt* proto-oncogene product (38) also contains protocols for applying PIP's to cell cultures. Matreya's synthetic phosphatidylinositols and inositol phosphates are excellent tools for investigating these second messengers, understanding the enzyme mechanisms involved in phosphoinositide metabolism (39, 40) and for designing therapeutic pharmacological agents. The compounds are evaluated by $^{1}H$ and $^{31}P$ NMR to guarantee enantiomeric purity of >98%. **See Literature References on page 99.**




Catalog number 1779

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|---|---|---|---|
| **1779** | **Phosphatidylinositol, dipalmitoyl, ($NH_4^+$ salt)** | **0.5 mg** | **290.00** |
| **1779-1** | PI; DPPI ($NH_4^+$ salt) $C_{41}H_{78}O_{13}P{\bullet}NH_4^+$ | **1 mg** | **516.00** |

**Source:** synthetic **Mol. Wt.:** 828 **Purity:** 98+% by $^{1}H$ NMR, $^{31}P$ NMR
**Appearance:** solid **Solubility:** chlorofom/methanol/DI water, 5:1:0.1 **Storage:** –20°C

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| **1773** | **Phosphatidylinositol 3-phosphate, dipalmitoyl, ($NH_4^+$ salt)** | **100 µg** | **57.00** |
| **1773-1** | DPPI-3-P; PI-3-P dipalmitoyl ($NH_4^+$ salt) $C_{41}H_{77}O_{16}P_2 \bullet 3NH_4$ | **1 mg** | **388.00** |
| **1773-5** | | **5 mg** | **1,815.00** |

**Source:** synthetic **Mol. Wt.:** 942 **Purity:** 98+% by $^{1}H$ NMR, $^{31}P$ NMR,
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 1:1:0.3
**Storage:** –20°C

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|---|---|---|---|
| **1919** | **Phosphatidylinositol 4-phosphate, dipalmitoyl, ($NH_4^+$ salt)** | **100 µg** | **57.00** |
| **1919-1** | DPPI-4-P; PI-4-P dipalmitoyl ($NH_4^+$ salt) $C_{41}H_{77}O_{16}P_2 \bullet 3NH_4$ | **1 mg** | **388.00** |
| **1919-5** | | **5 mg** | **1,815.00** |

**Source:** synthetic **Mol. Wt.:** 942 **Purity:** 98+% by $^{1}H$ NMR, $^{31}P$ NMR
**Appearance:** solid **Solubility:** methanol, chloroform/methanol/DI water, 1:1:0.3; slightly soluble in DI water **Storage:** –20°C

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|---|---|---|---|
| **1784** | **Phosphatidylinositol bis-4,5-phosphate, dioctanoyl, ($NH_4^+$ salt)** | **100 µg** | **57.00** |
| **1784-1** | DOPI-4,5-P2; PI-4,5-P2 dioctanoyl ($NH_4^+$ salt) $C_{25}H_{49}O_{19}P_3 \cdot 5NH_4$ | **1 mg** | **388.00** |
| **1784-5** | | **5 mg** | **1,815.00** |
| | **Source:** synthetic **Mol. Wt.:** 831 **Purity:** 98+% by $^1$H NMR, $^{31}$P NMR<br>**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 1:1:0.3<br>**Storage:** –20°C | | |
| **1778** | **Phosphatidylinositol bis-4,5-phosphate, dioctanoyl, ($Na^+$ salt)** | **100 µg** | **57.00** |
| **1778-1** | DOPI-4,5-P2; PI-4,5-P2 dioctanoyl ($Na^+$ salt) $C_{25}H_{44}O_{19}P_3 \cdot 5Na$ | **1 mg** | **388.00** |
| **1778-5** | | **5 mg** | **1,815.00** |
| | **Source:** synthetic **Mol. Wt.:** 856 **Purity:** 98+% by $^1$H NMR, $^{31}$P NMR<br>**Appearance:** solid **Solubility:** DI water **Storage:** –20°C | | |
| **1783** | **Phosphatidylinositol tris-3,4,5-phosphate, dipalmitoyl, ($NH_4^+$ salt)** | **100 µg** | **49.00** |
| **1783-1** | DPPI-3,4,5-P3; PI-3,4,5-P3 dipalmitoyl ($NH_4^+$ salt) $C_{41}H_{75}O_{22}P_4 \cdot 7NH_4$ | **1 mg** | **363.00** |
| **1783-5** | | **5 mg** | **1,573.00** |
| | **Source:** synthetic **Mol. Wt.:** 1170 **Purity:** 98+% by $^1$H NMR, $^{31}$P NMR<br>**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 1:1:0.3<br>**Storage:** –20°C | | |
| **1775** | **Phosphatidylinositol tris-3,4,5-phosphate, dipalmitoyl, ($Na^+$ salt)** | **100 µg** | **43.00** |
| **1775-1** | DPPI-3,4,5-P3; PI-3,4,5-P3 dipalmitoyl ($Na^+$ salt) $C_{41}H_{75}O_{22}P_4 \cdot 7Na$ | **1 mg** | **303.00** |
| **1775-5** | | **5 mg** | **1,392.00** |
| | **Source:** synthetic **Mol. Wt.:** 1205 **Purity:** 98+% by $^1$H NMR, $^{31}$P NMR<br>**Appearance:** solid **Solubility:** DI water **Storage:** –20°C | | |

## Bacterial Tetraethers

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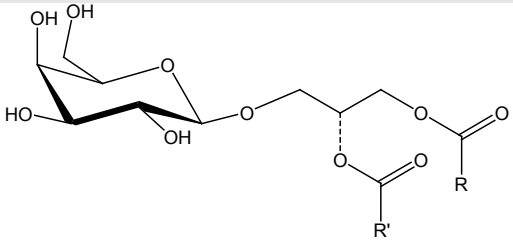
|---|---|---|---|
| **1303** | **Main phospholipid (MPL) of *Thermoplasma acidophilum*, (>95% pure)**<br>Purified MPL of *Thermoplasma acidophilum* (>95% pure) $C_{95}H_{188}O_{16}P$<br>**Source:** natural, Archaebacteria **Mol. Wt.:** 1618 **Purity:** >95% by TLC, HPLC<br>**Appearance:** solid **Solubility:** chloroform/methanol, 2:1; hexane/2-propanol/DI water, 30:40:5 **Storage:** 4-8°C | **5 mg** | **790.00** |
| **1303-2** | **Main phospholipid (MPL) of *Thermoplasma acidophilum*, (>50% pure)**<br>MPL of *Thermoplasma acidophilum* (>50% pure) $C_{95}H_{188}O_{16}P$<br>**Source:** natural, Archaebacteria **Mol. Wt.:** 1618 **Purity:** >50% by TLC<br>**Appearance:** liquid **Solubility:** chloroform/methanol, 2:1; hexane/2-propanol/DI water, 30:40:5 **Storage:** 4–8°C highly hygroscopic | **50 mg** | **2,024.00** |

## Glycosyl Glycerides




Catalog number 1058

**1058** **Monogalactosyldiglyceride** **10 mg** **197.00**
MGDG (hydrogenated) $C_{45}H_{86}O_{10}$ **CAS#:** 41670-62-6

**Source:** natural, plant **Mol. Wt.:** 787 (stearoyl) **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 4:1:0.1
**Storage:** –20°C

**1059** **Digalactosyldiglyceride** **5 mg** **234.00**
DGDG (hydrogenated) $C_{51}H_{96}O_{15}$ **CAS#:** 92457-02-8

**Source:** natural, plant **Mol. Wt.:** 949 (distearoyl) **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 4:1:0.1
**Storage:** –20°C

# Fatty Acids

## Simple Fatty Acids

### Saturated Fatty Acids and Methyl Esters

These products are 99% pure by GC. They are stable at room temperature and are supplied neat.

**1200** **Methyl hexanoate** **1 g** **42.00**
Methyl caproate; C6:0 Methyl ester $C_7H_{14}O_2$ **CAS#:** 106-70-7

**Source:** natural, plant **Mol. Wt.:** 130 **Purity:** 99% by TLC, GC **Appearance:** liquid
**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature

**1196** **Heptanoic acid** **1 g** **66.00**
C7:0 Fatty acid $C_7H_{14}O_2$ **CAS#:** 111-14-8

**Source:** natural, plant **Mol. Wt.:** 130 **Purity:** 99% by TLC, GC **Appearance:** liquid
**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature

**1197** **Methyl heptanoate** **1 g** **66.00**
C7:0 Methyl ester $C_8H_{16}O_2$ **CAS#:** 106-73-0

**Source:** natural, plant **Mol. Wt.:** 144 **Purity:** 99% by TLC, GC **Appearance:** liquid
**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature

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|---|---|---|---|
| **1198** | **Octanoic acid**<br>Caprylic acid; C8:0 Fatty acid $C_8H_{16}O_2$ **CAS#:** 124-07-2<br><br>**Source:** natural, plant **Mol. Wt.:** 144 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **1 g** | **42.00** |
| **1199** | **Methyl octanoate**<br>Methyl caprylate; C8:0 Methyl ester $C_9H_{18}O_2$ **CAS#:** 111-11-5<br><br>**Source:** natural, plant **Mol. Wt.:** 158 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **1 g** | **42.00** |
| **1163** | **Nonanoic acid**<br>C9:0 Fatty acid; Pelargonic acid $C_9H_{18}O_2$ **CAS#:** 112-05-0<br><br>**Source:** synthetic **Mol. Wt.:** 158 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **100 mg** | **33.00** |
| **1164** | **Methyl nonanoate**<br>C9:0 Methyl ester $C_{10}H_{20}O_2$ **CAS#:** 1731-84-6<br><br>**Source:** synthetic **Mol. Wt.:** 172 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **100 mg** | **33.00** |
| **1261** | **Methyl decanoate**<br>Methyl caprate; C10:0 Methyl ester $C_{11}H_{22}O_2$ **CAS#:** 110-42-9<br><br>**Source:** natural, plant **Mol. Wt.:** 186 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane **Storage:** room temperature | **500 mg** | **33.00** |
| **1165** | **Undecanoic acid**<br>C11:0 Fatty acid $C_{11}H_{22}O_2$ **CAS#:** 112-37-8<br><br>**Source:** synthetic **Mol. Wt.:** 186 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **100 mg** | **33.00** |
| **1166** | **Methyl undecanoate**<br>C11:0 Methyl ester $C_{12}H_{24}O_2$ **CAS#:** 1731-86-8<br><br>**Source:** synthetic **Mol. Wt.:** 200 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **100 mg** | **33.00** |
| **1008** | **Dodecanoic acid**<br>Lauric acid; C12:0 Fatty acid $C_{12}H_{24}O_2$ **CAS#:** 143-07-7<br><br>**Source:** natural, plant **Mol. Wt.:** 200 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **1 g** | **42.00** |
| **1009** | **Methyl dodecanoate**<br>Methyl laurate; C12:0 Methyl ester $C_{13}H_{26}O_2$ **CAS#:** 111-82-0<br><br>**Source:** natural, plant **Mol. Wt.:** 214 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **1 g** | **42.00** |

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| **1161** | **Tridecanoic acid**<br>C13:0 Fatty acid $C_{13}H_{26}O_2$ **CAS#:** 638-53-9<br><br>**Source:** synthetic **Mol. Wt.:** 214 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **100 mg** | **60.00** |
| **1162** | **Methyl tridecanoate**<br>C13:0 Methyl ester $C_{14}H_{28}O_2$ **CAS#:** 1731-88-0<br><br>**Source:** synthetic **Mol. Wt.:** 228 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **100 mg** | **60.00** |
| **1010** | **Tetradecanoic acid**<br>Myristic acid; C14:0 Fatty acid $C_{14}H_{28}O_2$ **CAS#:** 544-63-8<br><br>**Source:** natural, plant **Mol. Wt.:** 228 **Purity:** 99% by TLC, GC<br>**Appearance:** solid **Solubility:** chloroform, ethanol, ethyl ether<br>**Storage:** room temperature | **1 g** | **39.00** |
| **1011** | **Methyl tetradecanoate**<br>Methyl myristate; C14:0 Methyl ester $C_{15}H_{30}O_2$ **CAS#:** 124-10-7<br><br>**Source:** natural, plant **Mol. Wt.:** 242 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, ethanol, ethyl ether<br>**Storage:** room temperature | **1 g** | **39.00** |
| **1012** | **Pentadecanoic acid**<br>C15:0 Fatty acid $C_{15}H_{30}O_2$ **CAS#:** 1002-84-2<br><br>**Source:** synthetic **Mol. Wt.:** 242 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **1 g** | **97.00** |
| **1013** | **Methyl pentadecanoate**<br>C15:0 Methyl ester $C_{16}H_{32}O_2$ **CAS#:** 7132-64-1<br><br>**Source:** synthetic **Mol. Wt.:** 256 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **1 g** | **97.00** |
| **1014** | **Hexadecanoic acid**<br>Palmitic acid; C16:0 Fatty acid $C_{16}H_{32}O_2$ **CAS#:** 57-10-3<br><br>**Source:** natural, plant **Mol. Wt.:** 256 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **1 g** | **33.00** |
| **1015** | **Methyl hexadecanoate**<br>Methyl palmitate; C16:0 Methyl ester $C_{17}H_{34}O_2$ **CAS#:** 112-39-0<br><br>**Source:** natural, plant **Mol. Wt.:** 270 **Purity:** 99% by TLC, GC<br>**Appearance:** solid **Solubility:** chloroform, ethanol, ethyl ether<br>**Storage:** room temperature | **1 g** | **33.00** |
| **1018** | **Heptadecanoic acid**<br>Margaric acid; C17:0 Fatty acid $C_{17}H_{34}O_2$ **CAS#:** 506-12-7<br><br>**Source:** synthetic **Mol. Wt.:** 270 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **1 g** | **146.00** |

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| **1019** | **Methyl heptadecanoate**<br>Methyl margarate; C17:0 Methyl ester $C_{18}H_{36}O_2$ **CAS#:** 1731-92-6<br><br>**Source:** synthetic **Mol. Wt.:** 284 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethanol, ethyl ether **Storage:** room temperature | **1 g** | **146.00** |
| **1020** | **Octadecanoic acid**<br>Stearic acid; C18:0 Fatty acid $C_{18}H_{36}O_2$ **CAS#:** 57-11-4<br><br>**Source:** natural, plant **Mol. Wt.:** 284 **Purity:** 99% by TLC, GC<br>**Appearance:** solid **Solubility:** chloroform, ethanol, ethyl ether<br>**Storage:** room temperature | **1 g** | **33.00** |
| **1021** | **Methyl octadecanoate**<br>Methyl stearate; C18:0 Methyl ester $C_{19}H_{38}O_2$ **CAS#:** 112-61-8<br><br>**Source:** natural, plant **Mol. Wt.:** 298 **Purity:** 99% by TLC, GC<br>**Appearance:** solid **Solubility:** chloroform, ethanol, ethyl ether<br>**Storage:** room temperature | **1 g** | **33.00** |
| **1028** | **Nonadecanoic acid**<br>C19:0 Fatty acid $C_{19}H_{38}O_2$ **CAS#:** 646-30-0<br><br>**Source:** synthetic **Mol. Wt.:** 298 **Purity:** 99% by TLC, GC<br>**Appearance:** solid **Solubility:** chloroform, ethyl ether **Storage:** room temperature | **100 mg** | **71.00** |
| **1029** | **Methyl nonadecanoate**<br>C19:0 Methyl ester $C_{20}H_{40}O_2$ **CAS#:** 1731-94-8<br><br>**Source:** synthetic **Mol. Wt.:** 312 **Purity:** 99% by TLC, GC<br>**Appearance:** solid **Solubility:** chloroform, ethyl ether **Storage:** room temperature | **100 mg** | **71.00** |
| **1030** | **Eicosanoic acid**<br>Arachidic acid; C20:0 Fatty acid $C_{20}H_{40}O_2$ **CAS#:** 506-30-9<br><br>**Source:** natural, plant **Mol. Wt.:** 312 **Purity:** 99% by TLC, GC<br>**Appearance:** solid **Solubility:** chloroform, ethyl ether **Storage:** room temperature | **500 mg** | **71.00** |
| **1031** | **Methyl eicosanoate**<br>Methyl arachidate; C20:0 Methyl ester $C_{21}H_{42}O_2$ **CAS#:** 1120-28-1<br><br>**Source:** natural, plant **Mol. Wt.:** 327 **Purity:** 99% by TLC, GC<br>**Appearance:** solid **Solubility:** chloroform, ethyl ether **Storage:** room temperature | **500 mg** | **71.00** |
| **1241** | **Heneicosanoic acid**<br>C21:0 Fatty acid $C_{21}H_{42}O_2$ **CAS#:** 2363-71-5<br><br>**Source:** synthetic **Mol. Wt.:** 326 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether **Storage:** room temperature | **100 mg** | **66.00** |
| **1242** | **Methyl heneicosanoate**<br>C21:0 Methyl ester $C_{22}H_{44}O_2$ **CAS#:** 6064-90-0<br><br>**Source:** synthetic **Mol. Wt.:** 341 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether **Storage:** room temperature | **100 mg** | **66.00** |

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| **1035** | **Docosanoic acid**<br>Behenic acid; C22:0 Fatty acid $C_{22}H_{44}O_2$ **CAS#:** 112-85-6<br><br>**Source:** natural, plant **Mol. Wt.:** 341 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether **Storage:** room temperature | **500 mg** | **66.00** |
| **1036** | **Methyl docosanoate**<br>Methyl behenate; C22:0 Methyl ester $C_{23}H_{46}O_2$ **CAS#:** 929-77-1<br><br>**Source:** natural, plant **Mol. Wt.:** 354 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether **Storage:** room temperature | **500 mg** | **66.00** |
| **1186** | **Tricosanoic acid**<br>C23:0 Fatty acid $C_{23}H_{46}O_2$ **CAS#:** 2433-96-7<br><br>**Source:** synthetic **Mol. Wt.:** 355 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether **Storage:** room temperature | **100 mg** | **77.00** |
| **1187** | **Methyl tricosanoate**<br>C23:0 Methyl ester $C_{24}H_{48}O_2$ **CAS#:** 2433-97-8<br><br>**Source:** synthetic **Mol. Wt.:** 368 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether **Storage:** room temperature | **100 mg** | **77.00** |
| **1037** | **Tetracosanoic acid**<br>Lignoceric acid; C24:0 Fatty acid $C_{24}H_{48}O_2$ **CAS#:** 557-59-5<br><br>**Source:** synthetic **Mol. Wt.:** 369 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether **Storage:** room temperature | **100 mg** | **77.00** |
| **1038** | **Methyl tetracosanoate**<br>Methyl lignocerate; C24:0 Methyl ester $C_{25}H_{50}O_2$ **CAS#:** 2442-49-1<br><br>**Source:** synthetic **Mol. Wt.:** 382 **Purity:** 99% by GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether **Storage:** room temperature | **100 mg** | **77.00** |
| **1251** | **Hexacosanoic acid**<br>Cerotic acid; C26:0 Fatty acid $C_{26}H_{52}O_2$ **CAS#:** 506-46-7<br><br>**Source:** synthetic **Mol. Wt.:** 397 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether **Storage:** room temperature | **25 mg** | **89.00** |
| **1252** | **Methyl hexacosanoate**<br>Methyl cerotate; C26:0 Methyl ester $C_{27}H_{54}O_2$ **CAS#:** 5802-82-4<br><br>**Source:** synthetic **Mol. Wt.:** 411 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether **Storage:** room temperature | **25 mg** | **89.00** |
| **1271** | **Methyl octacosanoate**<br>Methyl montanate; C28:0 Methyl ester $C_{29}H_{58}O_2$ **CAS#:** 55682-92-3<br><br>**Source:** synthetic **Mol. Wt.:** 439 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, methylene chloride **Storage:** room temperature | **50 mg** | **88.00** |

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| **1273** | **Methyl triacontanoate**<br>Methyl melissate; C30:0 Methyl ester $C_{31}H_{62}O_2$ **CAS#:** 629-83-4<br><br>**Source:** synthetic **Mol. Wt.:** 467 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, methylene chloride **Storage:** room temperature | **50 mg** | **99.00** |
| **1275** | **Methyl dotriacontanoate**<br>Methyl lacceroate; C32:0 Methyl ester $C_{33}H_{66}O_2$ **CAS#:** 41755-79-7<br><br>**Source:** synthetic **Mol. Wt.:** 495 **Purity:** 98+% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, methylene chloride **Storage:** room temperature | **50 mg** | **111.00** |

## Unsaturated Fatty Acids and Methyl Esters

Unsaturated fatty acids are easily oxidized. Flush open containers with argon or nitrogen and store at -20°C, in dark.

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|---|---|---|---|
| **1157** | **Tetradecenoic acid (*cis*-9)**<br>Myristoleic acid; C14:1 (*cis*-9) fatty acid $C_{14}H_{26}O_2$ **CAS#:** 544-64-9<br><br>**Source:** natural, plant **Mol. Wt.:** 226 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **92.00** |
| **1040** | **Methyl tetradecenoate (*cis*-9)**<br>Methyl myristoleate; C14:1 (*cis*-9) Methyl ester $C_{15}H_{28}O_2$<br>**CAS#:** 56219-06-8<br><br>**Source:** natural, plant **Mol. Wt.:** 240 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **92.00** |
| **1243** | **Hexadecenoic acid (*cis*-6)**<br>Sapienic acid $C_{16}H_{30}O_2$<br><br>**Source:** synthetic **Mol. Wt.:** 254 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** ethanol, methanol, chloroform, ethyl ether<br>**Storage:** –20°C | **25 mg** | **174.00** |
| **1016** | **Hexadecenoic acid (*cis*-9)**<br>Palmitoleic acid; C16:1 (*cis*-9) Fatty acid $C_{16}H_{30}O_2$ **CAS#:** 373-49-9<br><br>**Source:** natural, plant **Mol. Wt.:** 254 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **57.00** |
| **1017** | **Methyl hexadecenoate (*cis*-9)**<br>Methyl palmitoleate; C16:1 (*cis*-9) Methyl ester $C_{17}H_{32}O_2$<br>**CAS#:** 1120-25-8<br><br>**Source:** natural, plant **Mol. Wt.:** 268 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **57.00** |
| **1147** | **Hexadecenoic acid (*trans*-9)**<br>Palmitelaidic acid; C16:1 (*trans*-9) Fatty acid $C_{16}H_{30}O_2$<br>**CAS#:** 10030-73-6<br><br>**Source:** synthetic **Mol. Wt.:** 254 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **77.00** |

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| **1148** | **Methyl hexadecenoate (*trans*-9)**<br>Methyl palmitelaidate; C16:1 (*trans*-9) Methyl ester $C_{17}H_{32}O_2$<br>**CAS#:** 10030-74-7<br><br>**Source:** synthetic **Mol. Wt.:** 268 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **77.00** |
| **1208** | **11-Hexadecenoic acid (92% *cis*, 8% *trans*)**<br>C16:1 (*cis*-11) Fatty acid $C_{16}H_{30}O_2$<br><br>**Source:** synthetic **Mol. Wt.:** 254 **Purity:** >98%, by TLC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, hexane, methanol **Storage:** –20°C<br><br>92% *cis*, 8% *trans* by GC | **50 mg** | **131.00** |
| | | **100 mg** | **73.00** |
| **1204** | **Heptadecenoic acid (*cis*-10)**<br>C17:1 (*cis*-10) Fatty acid $C_{17}H_{32}O_2$ **CAS#:** 29743-97-3<br><br>**Source:** synthetic **Mol. Wt.:** 268 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | | |
| **1203** | **Methyl heptadecenoate (*cis*-10)**<br>Methyl heptadecenoate; C17:1 (*cis*-10) Methyl ester $C_{18}H_{34}O_2$<br>**CAS#:** 75190-82-8<br><br>**Source:** synthetic **Mol. Wt.:** 282 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **73.00** |
| **1022** | **Octadecenoic acid (*cis*-9)**<br>Oleic acid; C18:1 (*cis*-9) Fatty acid $C_{18}H_{34}O_2$ **CAS#:** 112-80-1<br><br>**Source:** natural, plant **Mol. Wt.:** 282 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **1 g** | **46.00** |
| **1023** | **Methyl octadecenoate (*cis*-9)**<br>Methyl oleate; C18:1 (*cis*-9) Methyl ester $C_{19}H_{36}O_2$ **CAS#:** 112-62-9<br><br>**Source:** natural, plant **Mol. Wt.:** 296 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **1 g** | **46.00** |
| **1149** | **Octadecenoic acid (*trans*-9)**<br>Elaidic acid; C18:1 (*trans*-9) Fatty acid $C_{18}H_{34}O_2$ **CAS#:** 112-79-8<br><br>**Source:** synthetic **Mol. Wt.:** 282 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **1 g** | **105.00** |
| **1150** | **Methyl octadecenoate (*trans*-9)**<br>Methyl elaidate; C18:1 (*trans*-9) Methyl ester $C_{19}H_{36}O_2$ **CAS#:** 1937-62-8<br><br>**Source:** natural, plant **Mol. Wt.:** 296 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **1 g** | **105.00** |

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| **1266** | **Octadecenoic acid (*cis*-11)**<br>*cis*-Vaccenic acid; C18:1(*cis*-11) Fatty acid $C_{18}H_{34}O_2$ **CAS#:** 506-17-2<br><br>**Source:** natural, plant **Mol. Wt.:** 282 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **92.00** |
| **1267** | **Methyl octadecenoate (*cis*-11)**<br>Methyl *cis*-vaccenate; C18:1(*cis*-11) Methyl ester $C_{19}H_{36}O_2$<br>**CAS#:** 1937-63-9<br><br>**Source:** semisynthetic, plant **Mol. Wt.:** 296 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **92.00** |
| **1262** | **Octadecenoic acid (*trans*-11)**<br>*trans* Vaccenic acid; C18:1 (*trans*-11) Fatty acid $C_{18}H_{34}O_2$<br>**CAS#:** 693-72-1<br><br>**Source:** synthetic **Mol. Wt.:** 282 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **92.00** |
| **1263** | **Methyl octadecenoate (*trans*-11)**<br>Methyl *trans* vaccenate; C18:1 (*trans*-11) Methyl ester $C_{19}H_{36}O_2$<br>**CAS#:** 6198-58-9<br><br>**Source:** synthetic **Mol. Wt.:** 296 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **92.00** |
| **1024** | **Octadecadienoic acid (all *cis*-9,12)**<br>Linoleic acid; C18:2 (all *cis*-9,12) Fatty acid $C_{18}H_{32}O_2$ **CAS#:** 60-33-3<br><br>**Source:** natural, plant **Mol. Wt.:** 280 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** ethyl ether, ethanol, hexane **Storage:** –20°C | **1 g** | **46.00** |
| **1025** | **Methyl octadecadienoate (all *cis*-9,12)**<br>Methyl linoleate; C18:2 (all *cis*-9,12) Methyl ester $C_{19}H_{34}O_2$<br>**CAS#:** 112-63-0<br><br>**Source:** natural, plant **Mol. Wt.:** 294 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **1 g** | **46.00** |
| **1151** | **Linoelaidic acid (all *trans*-9,12)**<br>C18:2 (all *trans*-9, 12) Fatty acid $C_{18}H_{32}O_2$ **CAS#:** 506-21-8<br><br>**Source:** natural, plant **Mol. Wt.:** 280 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **57.00** |
| **1152** | **Methyl octadecadienoate (all *trans*-9,12)**<br>Methyl linoelaidate; C18:2 (all *trans*-9,12) Methyl ester $C_{19}H_{34}O_2$<br>**CAS#:** 2566-97-4<br><br>**Source:** natural, plant **Mol. Wt.:** 294 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **57.00** |

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| **1026** | **Octadecatrienoic acid (all *cis*-9,12,15)**<br>Linolenic acid; C18:3 (all *cis*-9,12,15) Fatty acid $C_{18}H_{30}O_2$<br>**CAS#:** 463-40-1<br><br>**Source:** natural, plant **Mol. Wt.:** 278 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **500 mg** | **105.00** |
| **1027** | **Methyl octadecatrienoate (all *cis*-9,12,15)**<br>Methyl linolenate; C18:3 (all *cis*-9,12,15) Methyl ester $C_{19}H_{32}O_2$<br>**CAS#:** 301-00-8<br><br>**Source:** natural, plant **Mol. Wt.:** 292 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **500 mg** | **105.00** |
| **1153** | **Octadecatrienoic acid (all *cis*-6,9,12)**<br>*gamma*-Linolenic acid; C18:3 (all *cis*-6,9,12) Fatty acid $C_{18}H_{30}O_2$<br>**CAS#:** 506-26-3<br><br>**Source:** natural, plant **Mol. Wt.:** 278 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **64.00** |
| **1154** | **Methyl octadecatrienoate (all *cis*-6,9,12)**<br>Methyl *gamma*-linolenate; C18:3 (all *cis*-6,9,12) Methyl ester $C_{19}H_{32}O_2$<br>**CAS#:** 16326-32-2<br><br>**Source:** natural, plant **Mol. Wt.:** 292 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **64.00** |
| **1276** | **Stearidonic acid (all *cis*-6,9,12,15)**<br>Moroctic acid; C18:4 (all *cis*-6,9,12,15) Fatty acid $C_{18}H_{28}O_2$<br>**CAS#:** 20290-75-9<br><br>**Source:** natural, plant **Mol. Wt.:** 276 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C<br>**Dry Ice Charge Applies** | **25 mg** | **264.00** |
| **1277** | **Methyl stearidonate (all *cis*-6,9,12,15)**<br>Moroctic acid methyl ester; C18:4 (all *cis*-6,9,12,15) Methyl ester $C_{19}H_{30}O_2$<br>**CAS#:** 73097-00-4<br><br>**Source:** natural, plant **Mol. Wt.:** 290 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C<br>**Dry Ice Charge Applies** | **25 mg** | **264.00** |
| **1205** | **Nonadecenoic acid (*cis*-10)**<br>C19:1 (*cis*-10) Fatty acid $C_{19}H_{36}O_2$ **CAS#:** 73033-09-7<br><br>**Source:** synthetic **Mol. Wt.:** 296 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **83.00** |
| **1206** | **Methyl nonadecenoate (*cis*-10)**<br>C19:1 (*cis*-10) Methyl ester $C_{20}H_{38}O_2$ **CAS#:** 19788-74-0<br><br>**Source:** synthetic **Mol. Wt.:** 310 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **83.00** |

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| **1032** | **Eicosenoic acid (*cis*-11)**<br>C20:1 (*cis*-11) Fatty acid $C_{20}H_{38}O_2$ **CAS#:** 5561-99-9<br><br>**Source:** natural, plant **Mol. Wt.:** 310 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **57.00** |
| **1033** | **Methyl eicosenoate (*cis*-11)**<br>Methyl eicosenoate; C20:1 (*cis*-11) Methyl ester $C_{21}H_{40}O_2$<br>**CAS#:** 2390-09-2<br><br>**Source:** natural, plant **Mol. Wt.:** 324 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **57.00** |
| **1192** | **Eicosadienoic acid (all *cis*-11,14)**<br>C20:2 (all *cis*-11,14) Fatty acid $C_{20}H_{36}O_2$ **CAS#:** 2091-39-6<br><br>**Source:** synthetic **Mol. Wt.:** 309 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **64.00** |
| **1193** | **Methyl eicosadienoate (all *cis*-11,14)**<br>Methyl eicosadienoate; C20:2 (all *cis*-11,14) Methyl ester $C_{21}H_{38}O_2$<br>**CAS#:** 2463-02-7<br><br>**Source:** synthetic **Mol. Wt.:** 322 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **64.00** |
| **1179** | **Methyl eicosatrienoate *(all cis*-5,8,11)**<br>Mead acid methyl ester; C20:3 (all *cis*-5,8,11) Methyl ester $C_{21}H_{36}O_2$<br>**CAS#:** 14602-39-2<br><br>**Source:** natural, plant **Mol. Wt.:** 320 **Purity:** 90% by TLC, GC<br>**Appearance:** liquid **Solvent:** hexane **Solubility:** chloroform, hexane, ethyl ether<br>**Storage:** –20°C | **1 mg/ml, 1 ml** | **180.00** |
| **1269** | **Methyl eicosatrienoate *(*all *cis*-8,11,14)**<br>Methyl homogamma linolenate; C20:3 (all *cis*-8,11,14) Methyl ester<br>$C_{21}H_{36}O_2$<br><br>**Source:** semi-synthetic, plant **Mol. Wt.:** 321 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** hexane, ethyl ether, chloroform **Storage:** –20°C | **50 mg** | **99.00** |
| **1042** | **Arachidonic acid (all *cis*-5,8,11,14)**<br>C20:4 (all *cis*-5,8,11,14) Fatty acid $C_{20}H_{32}O_2$ **CAS#:** 506-32-1<br><br>**Source:** natural, fungal **Mol. Wt.:** 304 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** ethyl ether, hexane, methylene chloride<br>**Storage:** –20°C **Dry Ice Charge Applies** | **100 mg** | **88.00** |
| **1034** | **Methyl eicosatetraenoate (all *cis*-5,8,11,14)**<br>Methyl arachidonate; C20:4 (all *cis*-5,8,11,14) Methyl ester $C_{21}H_{34}O_2$<br>**CAS#:** 2566-89-4<br><br>**Source:** natural, fungal **Mol. Wt.:** 318 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C<br>**Dry Ice Charge Applies** | **100 mg** | **88.00** |

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| **1167** | **Eicosapentaenoic acid (all *cis*-5,8,11,14,17)**<br>EPA ; *omega*-3 Fatty acid; C20:5 (all *cis*-5,8,11,14,17) Fatty acid $C_{20}H_{30}O_2$<br>**CAS#:** 10417-94-4<br><br>**Source:** natural, fish oil **Mol. Wt.:** 302 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether, ethanol, DMSO, DMF **Storage:** –20°C **Dry Ice Charge Applies**<br><br>Anti-hyperlipoproteinenic agent; 5-LOX inhibitor | **25 mg** | **97.00** |
| **1194** | **Methyl eicosapentaenoate (all *cis*-5,8,11,14,17)**<br>Methyl ester of *omega*-3 Fatty acid; C20:5 (all *cis*-5,8,11,14,17) Methyl ester $C_{21}H_{32}O_2$ **CAS#:** 2734-47-6<br><br>**Source:** natural, fish oil **Mol. Wt.:** 316 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, ethyl ether, hexane **Storage:** –20°C<br>**Dry Ice Charge Applies** | **25 mg** | **97.00** |
| **1264** | **Docosenoic acid (*cis*-13)**<br>Erucic acid; C22:1 (*cis*-13) Fatty acid $C_{22}H_{42}O_2$ **CAS#:** 112-86-7<br><br>**Source:** natural, plant **Mol. Wt.:** 339 **Purity:** >99% by TLC, GC<br>**Appearance:** solid **Solubility:** chloroform, ethyl ether, hexane **Storage:** –20°C | **100 mg** | **49.00** |
| **1265** | **Methyl docosenoate (*cis*-13)**<br>Methyl erucate; C22:1 (*cis*-13) Methyl ester $C_{23}H_{44}O_2$ **CAS#:** 1120-34-9<br><br>**Source:** natural, plant **Mol. Wt.:** 352 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, ethyl ether, hexane **Storage:** –20°C | **100 mg** | **49.00** |
| **1175** | **Docosapentaenoic acid (all *cis*-7,10,13,16,19)**<br>C22:5 (all *cis*-7,10,13,16,19) Fatty acid $C_{22}H_{34}O_2$ **CAS#:** 24880-45-3<br><br>**Source:** semi-synthetic **Mol. Wt.:** 330 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, ethyl ether, hexane **Storage:** –20°C<br>**Dry Ice Charge Applies** | **25 mg** | **97.00** |
| **1244** | **Methyl docosapentaenoate (all *cis*-7,10,13,16,19)**<br>C22:5 (all *cis*-7,10,13,16,19) Methyl ester $C_{23}H_{36}O_2$ **CAS#:** 108698-02-8<br><br>**Source:** semi-synthetic **Mol. Wt.:** 344 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** ethyl ether, ethanol, hexane, **Storage:** –20°C<br>**Dry Ice Charge Applies** | **25 mg** | **97.00** |
| **1136** | **Docosahexaenoic acid (all *cis*-4,7,10,13,16,19)**<br>DHA; C22:6 (all *cis*-4,7,10,13,16,19) *omega*-3 Fatty acid $C_{22}H_{32}O_2$<br>**CAS#:** 6217-54-5<br><br>**Source:** natural, algae **Mol. Wt.:** 328 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** ethyl ether, hexane, methylene chloride, ethanol, DMSO, DMF **Storage:** –20°C **Dry Ice Charge Applies** | **100 mg** | **88.00** |

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| **1041** | **Methyl docosahexaenoate (all *cis*-4,7,10,13,16,19)**<br>Methyl ester of *omega*-3 fatty acid; C22:6 (all *cis*-4,7,10,13,16,19) Methyl ester $C_{23}H_{34}O_2$ **CAS#:** 2566-90-7<br><br>**Source:** natural, algae **Mol. Wt.:** 342 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C<br>**Dry Ice Charge Applies** | **100 mg** | **88.00** |
| **1155** | **Nervonic acid (*cis*-15)**<br>Tetracosenoic acid (*cis*-15); C24:1 (*cis*-15) Fatty acid $C_{24}H_{46}O_2$ **CAS#:** 506-37-6<br><br>**Source:** synthetic **Mol. Wt.:** 367 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **88.00** |
| **1156** | **Methyl tetracosenoate (*cis*-15)**<br>Methyl nervonate; C24:1 (*cis*-15) Methyl ester $C_{25}H_{48}O_2$ **CAS#:** 2733-88-2<br><br>**Source:** synthetic **Mol. Wt.:** 381 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **88.00** |

## Trans Fatty Acids and Methyl Esters

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| **1147** | **Hexadecenoic acid (*trans*-9)**<br>Palmitelaidic acid; C16:1 (*trans*-9) Fatty acid $C_{16}H_{30}O_2$ **CAS#:** 10030-73-6<br><br>**Source:** synthetic **Mol. Wt.:** 254 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **77.00** |
| **1148** | **Methyl hexadecenoate (*trans*-9)**<br>Methyl palmitelaidate; C16:1 (*trans*-9) Methyl ester $C_{17}H_{32}O_2$ **CAS#:** 10030-74-7<br><br>**Source:** synthetic **Mol. Wt.:** 268 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **77.00** |
| **1149** | **Octadecenoic acid (*trans*-9)**<br>Elaidic acid; C18:1 (*trans*-9) Fatty acid $C_{18}H_{34}O_2$ **CAS#:** 112-79-8<br><br>**Source:** synthetic **Mol. Wt.:** 282 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **1 g** | **105.00** |
| **1150** | **Methyl octadecenoate (*trans*-9)**<br>Methyl elaidate; C18:1 (*trans*-9) Methyl ester $C_{19}H_{36}O_2$ **CAS#:** 1937-62-8<br><br>**Source:** natural, plant **Mol. Wt.:** 296 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **1 g** | **105.00** |
| **1262** | **Octadecenoic acid (*trans*-11)**<br>*trans* Vaccenic acid; C18:1 (*trans*-11) Fatty acid $C_{18}H_{34}O_2$ **CAS#:** 693-72-1<br><br>**Source:** synthetic **Mol. Wt.:** 282 **Purity:** 99% by TLC, GC **Appearance:** solid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **92.00** |

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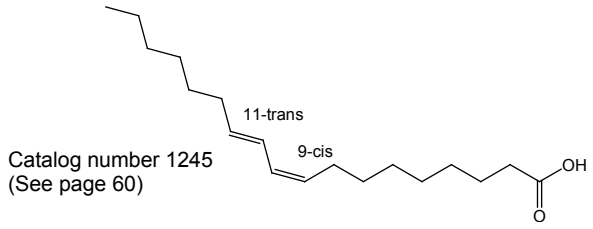
| **1263** | **Methyl octadecenoate (*trans*-11)**<br>Methyl *trans* vaccenate; C18:1 (*trans*-11) Methyl ester $C_{19}H_{36}O_2$<br>**CAS#:** 6198-58-9<br><br>**Source:** synthetic **Mol. Wt.:** 296 **Purity:** 99% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **92.00** |
| **1151** | **Linoelaidic acid (all *trans*-9,12)**<br>C18:2 (all *trans*-9,12) Fatty acid $C_{18}H_{32}O_2$ **CAS#:** 506-21-8<br><br>**Source:** natural, plant **Mol. Wt.:** 280 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **57.00** |
| **1152** | **Methyl octadecadienoate (all *trans*-9,12)**<br>Methyl linoelaidate; C18:2 (all *trans*-9,12) Methyl ester $C_{19}H_{34}O_2$<br>**CAS#:** 2566-97-4<br><br>**Source:** natural, plant **Mol. Wt.:** 294 **Purity:** 99% by TLC, GC<br>**Appearance:** liquid **Solubility:** chloroform, hexane, ethyl ether **Storage:** –20°C | **100 mg** | **57.00** |
| **1131** | ***Cis-Trans* Isomer Standard Mixture**<br><br>**Source:** margarine **Appearance:** liquid **Solvent:** 5ml methylene chloride<br>**Solubility:** methylene chloride, chloroform **Storage:** –20°C<br><br>Analysis of positional cis-trans fatty acid isomers is ever more important in light of the new food industry rules. These isomers can be resolved on Supelco SP-2560 or an equivalent capillary GC column. Use this specially formulated mix to ensure proper operation of your column for this tricky separation. Mix consists of cis-trans fatty acid isomers as methyl esters in methylene chloride.<br><br>This is a qualitative standard containing in order of elution: C16:0, C18:0, C18:1 trans isomers (4 peaks), C18:1 cis & trans isomers (2 peaks), C18:1 cis isomers (4 peaks), C18:2, C20:0, C20:1 and C18:3 (same peak), C22:0 | **5 mg/ml, 5 ml** | **135.00** |
| **1181** | **9(E),11(E)-Octadecadienoic acid**<br>9-*trans*, 11-*trans* CLA $C_{18}H_{32}O_2$ **CAS#:** 544-71-8<br><br>**Source:** synthetic **Mol. Wt.:** 280 **Melting Point (°C):** 55-57 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, hexane, methanol<br>**Storage:** –20°C | **25 mg** | **111.00** |

## Conjugated Linoleic Acid Isomers (CLA)

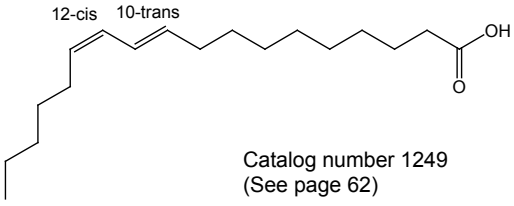
Linoleic acid is an essential fatty acid (18:2 ω6) of which several naturally occurring conjugated derivatives have been identified. These derivatives, called "conjugated linoleic acid" or CLA can have the two double bonds mainly in the 9 and 11 or in the 10 and 12 positions, resulting in eight possible geometric isomers. CLA occurs in meat (41) and dairy products (42, 43). In both cases, the 9(Z),11(E)-isomer is predominant and is thought to be the biologically active form. CLA assimilated through the diet of animals is found in the intestinal musosa, liver and adipose tissue (44). See also review article by Parodi (43). CLA has several biological properties. It's anti-carcinogenic activity has been demonstrated by its ability to inhibit chemically induced tumor formation in animal models of carcinogenesis (41,45-47). The addition of CLA to culture medium suppresses the *in vitro* growth of human melanoma, colorectal and breast cancer cells (48). CLA also exhibits anti-atherogenic activity. Addition of CLA to a controlled atherogenic diet significantly reduced the development of atherosclerosis in hamsters and rabbits (49,50). Animals fed a diet containing CLA also had lower levels of low-density-lipoprotein (LDL) cholesterol. CLA may be involved in regulating fat and protein metabolism (51,52). Several species of animals fed CLA-supplemented diets showed improved feed efficiency. Lean body mass increased while body fat was reduced. This seems to be due, mainly or exclusively, to the 10(E),12(Z)-isomer (catalog # 1249, see below). CLA competes with linoleate for Δ6 desaturase (53). Dietary CLA normalizes impaired glucose tolerance in the Zucker diabetic fatty *fa/fa* rat (54) *via* activation of PPAR γ, a result which bears on the possible ameliorization or prevention of NIDDM. The 11(Z),13(E)-isomer (catalog # 1259) has been shown to be concentrated in the heart and in mitochondria.
**See Literature References on page 99.**

**CLA Research is Being Redone With Our Highly Pure Isomers**

Most studies to date have utilized a mixture of CLA isomers containing less than 30% of the presumed active 9(Z),11(E)-isomer (55,56). In addition to the 9,11- and 10,12-isomers, 8,10- and 11,13-isomers have recently been identified in the widely used mixture (56,57). Matreya offers a highly pure CLA which is 98+% the active 9,11-"cis, trans" isomer. The corresponding "trans,trans" and "cis,cis" isomers are also available. In addition, we now offer the pure 10(E),12(Z)-isomer, which has been widely sought for comparison studies.
**See Literature References on page 99.**




Catalog number 1245
(See page 60)




Catalog number 1249
(See page 62)

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|---|---|---|---|
| **1245** | **9(Z),11(E)-Octadecadienoic acid** | **25 mg** | **111.00** |
| **1245-1** | 9-*cis*, 11-*trans* CLA $C_{18}H_{32}O_2$ **CAS#:** 2540-56-9 | **1 g** | **353.00** |
| **1245-10** | | **10 g** | **1,707.00** |
| | **Source:** synthetic **Mol. Wt.:** 280 **Purity:** 98+% by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethanol, hexane, methanol, DMSO **Storage:** –20°C | | |
| **1255** | **Methyl 9(Z), 11(E)-octadecadienoate** | **25 mg** | **111.00** |
| | Methyl ester of CLA (9-*cis*, 11-*trans*) $C_{19}H_{34}O_2$ | | |
| | **Source:** synthetic **Mol. Wt.:** 294 **Purity:** 98+% by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethanol, hexane, methanol **Storage:** –20°C | | |
| **1181** | **9(E),11(E)-Octadecadienoic acid** | **25 mg** | **111.00** |
| | 9-*trans*, 11-*trans* CLA $C_{18}H_{32}O_2$ **CAS#:** 544-71-8 | | |
| | **Source:** synthetic **Mol. Wt.:** 280 **Melting Point (°C):** 55-57 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, hexane, methanol **Storage:** –20°C | | |

| | | | |
|---|---|---|---|
| **1257** | **Methyl 9(E),11(E)-octadecadienoate**<br>Methyl ester of CLA (9-*trans*, 11-*trans*) $C_{19}H_{34}O_2$<br><br>**Source:** synthetic **Mol. Wt.:** 294 **Purity:** 98+% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, hexane, methanol **Storage:** –20°C | **25 mg** | **111.00** |
| **1248**<br>**1248-1** | **9(Z),11(Z)-Octadecadienoic acid**<br>9-*cis*, 11-*cis* CLA $C_{18}H_{32}O_2$ **CAS#:** 544-40-7<br><br>**Source:** synthetic **Mol. Wt.:** 280 **Melting Point (°C):** 40-42 **Purity:** 96+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol, ethyl ether<br>**Storage:** –20°C | **25 mg**<br>**1 g** | **111.00**<br>**2,024.00** |
| **1256** | **Methyl 9(Z), 11(Z)-octadecadienoate**<br>Methyl ester of CLA (9-*cis*, 11-*cis*) $C_{19}H_{34}O_2$<br><br>**Source:** synthetic **Mol. Wt.:** 294 **Purity:** 96+% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, hexane, methanol **Storage:** –20°C | **25 mg** | **111.00** |
| **1249**<br>**1249-1**<br>**1249-10** | **10(E),12(Z)-Octadecadienoic acid**<br>10-*trans*, 12-*cis* CLA $C_{18}H_{32}O_2$ **CAS#:** 2420-44-2<br><br>**Source:** synthetic **Mol. Wt.:** 280 **Purity:** 98+% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, hexane, methanol **Storage:** –20°C | **25 mg**<br>**1 g**<br>**10 g** | **111.00**<br>**319.00**<br>**1,591.00** |
| **1254** | **Methyl 10(E), 12(Z)-octadecadienoate**<br>Methyl ester of CLA (10-*trans*, 12-*cis*) $C_{19}H_{34}O_2$<br><br>**Source:** synthetic **Mol. Wt.:** 294 **Purity:** 98+% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, hexane, methanol **Storage:** –20°C | **25 mg** | **111.00** |
| **1259** | **11(Z), 13(E)-Octadecadienoic acid**<br>11-*cis*, 13-*trans* CLA $C_{18}H_{32}O_2$<br><br>**Source:** synthetic **Mol. Wt.:** 280 **Purity:** 77% cis, trans; 2 % cis, cis; 6% trans, trans by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethanol, hexane, methanol<br>**Storage:** –20°C | **25 mg** | **111.00** |
| **1247-1**<br>**1247-10** | **9(Z),11(E)-Octadecadienoic acid**<br>9-*cis*, 11-*trans* CLA $C_{18}H_{32}O_2$ **CAS#:** 2540-56-9<br><br>**Source:** synthetic **Mol. Wt.:** 280 **Purity:** 74% 9(Z),11(E); 17%(Z),(Z); 1%(E),(E) by TLC, GC **Appearance:** liquid **Solubility:** ethanol, ethyl ether, hexane<br>**Storage:** –20°C | **1 g**<br>**10 g** | **174.00**<br>**1,100.00** |
| **1258** | **Methyl 9(Z),11(E)-octadecadienoate**<br>Methyl ester of CLA (9-*cis*, 11-*trans*) $C_{19}H_{34}O_2$<br><br>**Source:** synthetic **Mol. Wt.:** 294 **Purity:** 74% 9(Z),11(E); 17%(Z),(Z); 1% (E),(E) by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethyl ether, hexane<br>**Storage:** –20°C | **25 mg** | **85.00** |

## Other CLA Products and Derivatives

**1409** **1-Stearoyl-2-linoleoyl-sn-glycero-3-phosphorylcholine** **25 mg/ml, 1ml** **204.00**
$C_{44}H_{84}NO_8P$

**Source:** synthetic **Mol. Wt.:** 786 **Purity:** 98+% by TLC **Appearance:** liquid
**Solvent:** chloroform **Solubility:** chloroform, ethanol **Storage:** –20°C

**1410** **1-Stearoyl-2-[9(Z),11(E)-octadecadienoyl]-sn-glycero-3-phosphorylcholine** **25 mg/ml, 1ml** **204.00**
$C_{44}H_{84}NO_8P$

**Source:** synthetic **Mol. Wt.:** 786 **Purity:** 98+% by TLC **Appearance:** liquid
**Solvent:** chloroform **Solubility:** chloroform, ethanol **Storage:** –20°C

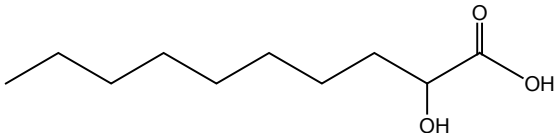
**1411** **1-Stearoyl-2-[10(E),12(Z)-octadecadienoyl]-sn-glycero-3-phosphorylcholine** **25 mg/ml, 1ml** **204.00**
$C_{44}H_{84}NO_8P$

**Source:** synthetic **Mol. Wt.:** 786 **Purity:** 98+% by TLC **Appearance:** liquid
**Solvent:** chloroform **Solubility:** chloroform, ethanol **Storage:** –20°C

# Hydroxy Fatty Acids

## 2-Hydroxy Fatty Acids and Methyl Esters

These products are racemic and 98+% pure by GC and TLC. The 2-hydroxy fatty acids are components of glycosphingolipids and are involved in fatty acid degradation. They are stable and are supplied neat in vials.




Catalog number 1758

**1758** **2-Hydroxydecanoic acid** **50 mg** **114.00**
**1758-1** 2-Hydroxy C10:0 fatty acid $C_{10}H_{20}O_3$ **CAS#:** 5393-81-7 **1 g** **655.00**

**Source:** synthetic **Mol. Wt.:** 188 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform, methanol **Storage:** –20°C

**1759** **Methyl 2-hydroxydecanoate** **50 mg** **114.00**
**1759-1** 2-Hydroxy C10:0 methyl ester $C_{11}H_{22}O_3$ **CAS#:** 71271-24-4 **1 g** **655.00**

**Source:** synthetic **Mol. Wt.:** 202 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform, methanol **Storage:** –20°C

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| **1701** | **2-Hydroxydodecanoic acid** | **50 mg** | **114.00** |
| **1701-1** | 2-Hydroxy C12:0 fatty acid $C_{12}H_{24}O_3$ **CAS#:** 2984-55-6 | **1 g** | **655.00** |

**Source:** synthetic **Mol. Wt.:** 216 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform, methanol **Storage:** –20°C

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| **1702** | **Methyl 2-hydroxydodecanoate** | **50 mg** | **114.00** |
| **1702-1** | 2-Hydroxy C12:0 methyl ester $C_{13}H_{26}O_3$ **CAS#:** 51067-85-7 | **1 g** | **655.00** |

**Source:** synthetic **Mol. Wt.:** 230 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform, ethyl ether, methanol **Storage:** –20°C

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| **1703** | **2-Hydroxytetradecanoic acid** | **50 mg** | **114.00** |
| **1703-1** | 2-Hydroxy C14:0 fatty acid $C_{14}H_{28}O_3$ **CAS#:** 2507-55-3 | **1 g** | **655.00** |

**Source:** synthetic **Mol. Wt.:** 244 **Melting Point (°C):** 81-82 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, methanol **Storage:** –20°C

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|---|---|---|---|
| **1704** | **Methyl 2-hydroxytetradecanoate** | **50 mg** | **114.00** |
| **1704-1** | 2-Hydroxy C14:0 methyl ester $C_{15}H_{30}O_3$ **CAS#:** 56009-40-6 | **1 g** | **655.00** |

**Source:** synthetic **Mol. Wt.:** 258 **Purity:** 98+% by TLC, GC **Appearance:** solid
**Solubility:** chloroform, ethyl ether, methanol **Storage:** –20°C

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|---|---|---|---|
| **1705** | **2-Hydroxyhexadecanoic acid** | **50 mg** | **114.00** |
| **1705-1** | 2-Hydroxy C16:0 fatty acid $C_{16}H_{32}O_3$ **CAS#:** 764-67-0 | **1 g** | **655.00** |

**Source:** synthetic **Mol. Wt.:** 272 **Melting Point (°C):** 86-87 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** methanol, chloroform/methanol, 2:1
**Storage:** –20°C

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| **1706** | **Methyl 2-hydroxyhexadecanoate** | **50 mg** | **114.00** |
| **1706-1** | 2-Hydroxy C16:0 methyl ester $C_{17}H_{34}O_3$ **CAS#:** 16742-51-1 | **1 g** | **655.00** |

**Source:** synthetic **Mol. Wt.:** 286 **Melting Point (°C):** 59-60 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethyl ether, methanol **Storage:** –20°C

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| **1707** | **2-Hydroxyoctadecanoic acid** | **50 mg** | **114.00** |
| **1707-1** | 2-Hydroxy C18:0 fatty acid $C_{18}H_{36}O_3$ **CAS#:** 629-22-1 | **1 g** | **655.00** |

**Source:** synthetic **Mol. Wt.:** 300 **Melting Point (°C):** 92-93 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C

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| **1708** | **Methyl 2-hydroxyoctadecanoate** | **50 mg** | **114.00** |
| **1708-1** | 2-Hydroxy C18:0 methyl ester $C_{19}H_{38}O_3$ **CAS#:** 2420-35-1 | **1 g** | **655.00** |

**Source:** synthetic **Mol. Wt.:** 315 **Melting Point (°C):** 64-66 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethyl ether, methanol
**Storage:** –20°C

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|---|---|---|---|
| **1709** | **2-Hydroxyeicosanoic acid** | **25 mg** | **114.00** |
| **1709-0.5** | 2-Hydroxy C20:0 fatty acid $C_{20}H_{40}O_3$ **CAS#:** 16742-48-6 | **0.5 g** | **655.00** |

**Source:** synthetic **Mol. Wt.:** 329 **Melting Point (°C):** 91-92 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C

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|---|---|---|---|
| **1710** | **Methyl 2-hydroxyeicosanoate** | **25 mg** | **114.00** |
| **1710-0.5** | 2-Hydroxy C20:0 methyl ester $C_{21}H_{42}O_3$ **CAS#:** 16742-49-7 | **0.5 g** | **655.00** |

**Source:** synthetic **Mol. Wt.:** 343 **Melting Point (°C):** 62-64 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethyl ether **Storage:** –20°C

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| **1711** | **2-Hydroxydocosanoic acid** | **25 mg** | **114.00** |
| **1711-0.5** | 2-Hydroxy C22:0 fatty acid $C_{22}H_{44}O_3$ **CAS#:** 13980-14-8 | **0.5 g** | **655.00** |

**Source:** synthetic **Mol. Wt.:** 366 **Melting Point (°C):** 96-97 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C

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|---|---|---|---|
| **1712** | **Methyl 2-hydroxydocosanoate** | **25 mg** | **114.00** |
| **1712-0.5** | 2-Hydroxy C22:0 methyl ester $C_{23}H_{46}O_3$ **CAS#:** 13980-17-1 | **0.5 g** | **655.00** |

**Source:** synthetic **Mol. Wt.:** 371 **Melting Point (°C):** 72-73 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethyl ether **Storage:** –20°C

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|---|---|---|---|
| **1713** | **2-Hydroxytricosanoic acid** | **10 mg** | **162.00** |
| | 2-Hydroxy C23:0 fatty acid $C_{23}H_{46}O_3$ **CAS#:** 2718-37-8 | | |

**Source:** synthetic **Mol. Wt.:** 371 **Melting Point (°C):** 98-99 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C

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|---|---|---|---|
| **1714** | **Methyl 2-hydroxytricosanoate** | **10 mg** | **162.00** |
| | 2-Hydroxy C23:0 methyl ester $C_{24}H_{48}O_3$ **CAS#:** 118745-41-8 | | |

**Source:** synthetic **Mol. Wt.:** 385 **Melting Point (°C):** 68-70 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethyl ether **Storage:** –20°C

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|---|---|---|---|
| **1715** | **2-Hydroxytetracosanoic acid** | **5 mg** | **162.00** |
| | 2-Hydroxy C24:0 fatty acid; Cerebronic acid $C_{24}H_{48}O_3$ **CAS#:** 544-57-0 | | |

**Source:** synthetic **Mol. Wt.:** 385 **Melting Point (°C):** 101-104 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform/methanol, 5:1 **Storage:** –20°C

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| **1716** | **Methyl 2-hydroxytetracosanoate** | **5 mg** | **162.00** |
| | 2-Hydroxy C24:0 methyl ester $C_{25}H_{50}O_3$ **CAS#:** 2433-95-6 | | |

**Source:** synthetic **Mol. Wt.:** 399 **Melting Point (°C):** 77-80 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethyl ether **Storage:** –20°C

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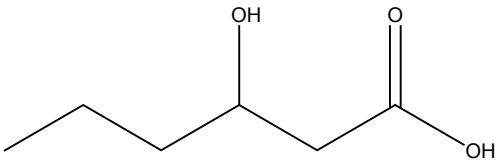
|---|---|---|---|
| **1722** | **2-Hydroxy Methyl Ester Mixture** | **10 mg/ml, 1 ml** | **114.00** |
| | Quantitative mixture | | |

**Source:** synthetic **Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform **Storage:** –20°C

Contains: 2-OH C14:0, 20.0%; 2-OH C16:0, 20.0%; 2-OH C18:0, 15.0%; 2-OH C20:0, 15.0%; 2-OH C22:0, 10.0%; 2-OH C23:0, 10.0%; 2-OH C24:0, 10.0%

## 3-Hydroxy Fatty Acids and Methyl Esters

These products are racemic and 98+% pure by GC and TLC. 3-Hydroxy fatty acids occur in the lipid fraction of many microorganisms and are useful in the typing of microbial isolates. They are stable and are supplied neat in vials.




Catalog number 1747

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|---|---|---|---|
| **1747** | **3-Hydroxyhexanoic acid** | **25 mg** | **138.00** |
| **1747-0.5** | 3-Hydroxy C6:0 fatty acid $C_6H_{12}O_3$ **CAS#:** 10191-24-9 | **0.5 g** | **689.00** |
| | **Source:** synthetic **Mol. Wt.:** 132 **Purity:** 98+% by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | | |
| **1748** | **Methyl 3-hydroxyhexanoate** | **25 mg** | **138.00** |
| **1748-0.5** | 3-Hydroxy C6:0 methyl ester $C_7H_{14}O_3$ **CAS#:** 21188-58-9 | **0.5 g** | **689.00** |
| | **Source:** synthetic **Mol. Wt.:** 146 **Purity:** 98+% by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | | |
| **1745** | **3-Hydroxyoctanoic acid** | **25 mg** | **126.00** |
| **1745-0.5** | 3-Hydroxy C8:0 fatty acid $C_8H_{16}O_3$ **CAS#:** 88930-08-9 | **0.5 g** | **689.00** |
| | **Source:** synthetic **Mol. Wt.:** 160 **Purity:** 98+% by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | | |
| **1746** | **Methyl 3-hydroxyoctanoate** | **25 mg** | **126.00** |
| **1746-0.5** | 3-Hydroxy C8:0 methyl ester $C_9H_{18}O_3$ **CAS#:** 85549-54-8 | **0.5 g** | **689.00** |
| | **Source:** synthetic **Mol. Wt.:** 174 **Purity:** 98+% by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethanol, ethyl ether **Storage:** –20°C | | |
| **1725** | **3-Hydroxynonanoic acid** | **25 mg** | **138.00** |
| **1725-0.5** | 3-Hydroxy C9:0 fatty acid $C_9H_{18}O_3$ **CAS#:** 88930-09-0 | **0.5 g** | **689.00** |
| | **Source:** synthetic **Mol. Wt.:** 174 **Melting Point (°C):** 60-62 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | | |
| **1726** | **Methyl 3-hydroxynonanoate** | **25 mg** | **138.00** |
| **1726-0.5** | 3-Hydroxy C9:0 methyl ester $C_{10}H_{20}O_3$ **CAS#:** 83968-06-3 | **0.5 g** | **689.00** |
| | **Source:** synthetic **Mol. Wt.:** 188 **Purity:** 98+% by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethanol, ethyl ether **Storage:** –20°C | | |
| **1727** | **3-Hydroxydecanoic acid** | **25 mg** | **162.00** |
| **1727-0.5** | 3-Hydroxy C10:0 fatty acid $C_{10}H_{20}O_3$ **CAS#:** 5561-87-5 | **0.5 g** | **689.00** |
| | **Source:** synthetic **Mol. Wt.:** 188 **Melting Point (°C):** 57-60 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | | |

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|---|---|---|---|
| **1728** | **Methyl 3-hydroxydecanoate** | **25 mg** | **162.00** |
| **1728-0.5** | 3-Hydroxy C10:0 methyl ester $C_{11}H_{22}O_3$ **CAS#:** 62675-82-5 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 202 **Purity:** 98+% by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

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| **1729** | **3-Hydroxyundecanoic acid** | **25 mg** | **147.00** |
| **1729-0.5** | 3-Hydroxy C11:0 fatty acid $C_{11}H_{22}O_3$ **CAS#:** 40165-88-6 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 202 **Melting Point (°C):** 74-76 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

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| **1730** | **Methyl 3-hydroxyundecanoate** | **25 mg** | **147.00** |
| **1730-0.5** | 3-Hydroxy C11:0 methyl ester $C_{12}H_{24}O_3$ **CAS#:** 127593-21-9 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 216 **Purity:** 98+% by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

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| **1731** | **3-Hydroxydodecanoic acid** | **25 mg** | **138.00** |
| **1731-0.5** | 3-Hydroxy C12:0 fatty acid $C_{12}H_{24}O_3$ **CAS#:** 1883-13-2 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 216 **Melting Point (°C):** 71-72 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** ethanol, methanol **Storage:** –20°C

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|---|---|---|---|
| **1732** | **Methyl 3-hydroxydodecanoate** | **25 mg** | **147.00** |
| **1732-0.5** | 3-Hydroxy C12:0 methyl ester $C_{13}H_{26}O_3$ **CAS#:** 85464-97-7 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 230 **Purity:** 98+% by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethanol, ethyl ether **Storage:** –20°C

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| **1733** | **3-Hydroxytridecanoic acid** | **25 mg** | **147.00** |
| **1733-0.5** | 3-Hydroxy C13:0 fatty acid $C_{13}H_{26}O_3$ **CAS#:** 32602-69-0 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 230 **Melting Point (°C):** 80-83 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

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|---|---|---|---|
| **1734** | **Methyl 3-hydroxytridecanoate** | **25 mg** | **147.00** |
| **1734-0.5** | 3-Hydroxy C13:0 methyl ester $C_{14}H_{28}O_3$ | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 244 **Purity:** 98+% by TLC, GC **Appearance:** liquid **Solubility:** chloroform, ethyl ether **Storage:** –20°C

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|---|---|---|---|
| **1735** | **3-Hydroxytetradecanoic acid** | **25 mg** | **138.00** |
| **1735-0.5** | 3-Hydroxy C14:0 fatty acid $C_{14}H_{28}O_3$ **CAS#:** 3422-31-9 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 244 **Melting Point (°C):** 80-81 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

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| **1736** | **Methyl 3-hydroxytetradecanoate** | **25 mg** | **138.00** |
| **1736-0.5** | 3-Hydroxy C14:0 methyl ester $C_{15}H_{30}O_3$ **CAS#:** 55682-83-2 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 258 **Melting Point (°C):** 36-37 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethyl ether, methanol **Storage:** –20°C

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| **1739** | **3-Hydroxyhexadecanoic acid** | **25 mg** | **138.00** |
| **1739-0.5** | 3-Hydroxy C16:0 fatty acid $C_{16}H_{32}O_3$. **CAS#:** 928-17-6 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 272 **Melting Point (°C):** 85-86 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

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| **1740** | **Methyl 3-hydroxyhexadecanoate** | **25 mg** | **138.00** |
| **1740-0.5** | 3-Hydroxy C16:0 methyl ester $C_{17}H_{34}O_3$ **CAS#:** 51883-36-4 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 286 **Melting Point (°C):** 43-45 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** ethanol, methanol **Storage:** –20°C

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| **1741** | **3-Hydroxyheptadecanoic acid** | **25 mg** | **126.00** |
| **1741-0.5** | 3-Hydroxy C17:0 fatty acid $C_{17}H_{34}O_3$ **CAS#:** 40165-89-7 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 286 **Melting Point (°C):** 93-95 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** ethanol, methanol **Storage:** –20°C

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|---|---|---|---|
| **1742** | **Methyl 3-hydroxyheptadecanoate** | **25 mg** | **126.00** |
| **1742-0.5** | 3-Hydroxy C17:0 methyl ester $C_{18}H_{36}O_3$ | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 300 **Melting Point (°C):** 53-55 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** ethanol, methanol **Storage:** –20°C

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| **1743** | **3-Hydroxyoctadecanoic acid** | **25 mg** | **126.00** |
| **1743-0.5** | 3-Hydroxy C18:0 fatty acid $C_{18}H_{36}O_3$ **CAS#:** 45261-96-9 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 300 **Melting Point (°C):** 52-54 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** ethanol, methanol **Storage:** –20°C

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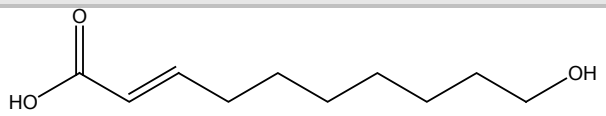
|---|---|---|---|
| **1744** | **Methyl 3-hydroxyoctadecanoate** | **25 mg** | **126.00** |
| **1744-0.5** | 3-Hydroxy C18:0 methyl ester $C_{19}H_{38}O_3$ **CAS#:** 14531-40-9 | **0.5 g** | **689.00** |

**Source:** synthetic **Mol. Wt.:** 314 **Melting Point (°C):** 52-54 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** ethanol, methanol **Storage:** –20°C

## Omega Hydroxy Fatty Acids




Catalog number 1754

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|---|---|---|---|
| **1754** | **Royal Jelly acid**<br>10-Hydroxy-2-(E)-decenoic acid; *omega*-Hydroxy C10:1 (2-*trans*) fatty acid<br>$C_{10}H_{18}O_3$ **CAS#:** 14113-05-4 | **50 mg** | **184.00** |

**Source:** synthetic **Mol. Wt.:** 186 **Melting Point (°C):** 63-65 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

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|---|---|---|---|
| **1881** | **15-Hydroxypentadecanoic acid**<br>*omega*-Hydroxy C15:0 fatty acid $C_{15}H_{30}O_3$ **CAS#:** 4617-33-8<br><br>**Source:** synthetic **Mol. Wt.:** 258 **Melting Point (°C):** 84-86 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol<br>**Storage:** room temperature | **25 mg** | **75.00** |
| **1882** | **Methyl 15-hydroxypentadecanoate**<br>*omega*-Hydroxy C15:0 methyl ester $C_{16}H_{32}O_3$<br>**CAS#:** 76529-42-5<br><br>**Source:** synthetic **Mol. Wt.:** 272 **Melting Point (°C):** 50-52 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, warm ethanol, ethyl ether<br>**Storage:** room temperature | **25 mg** | **75.00** |
| **1760** | **17-Hydroxyheptadecanoic acid**<br>*omega*-Hydroxy C17:0 fatty acid $C_{17}H_{34}O_3$ **CAS#:** 13099-34-8<br><br>**Source:** synthetic **Mol. Wt.:** 286 **Melting Point (°C):** 93-95 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, warm ethanol, ethyl ether<br>**Storage:** room temperature | **25 mg** | **184.00** |
| **1761** | **Methyl 17-hydroxyheptadecanoate**<br>*omega*-Hydroxy C17:0 methyl ester $C_{18}H_{36}O_3$<br>**CAS#:** 94036-00-7<br><br>**Source:** synthetic **Mol. Wt.:** 300 **Melting Point (°C):** 59-63 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, warm ethanol, ethyl ether<br>**Storage:** room temperature | **25 mg** | **184.00** |
| **1877** | **20-Hydroxyeicosanoic acid**<br>*omega*-Hydroxy C20:0 fatty acid $C_{20}H_{40}O_3$<br><br>**Source:** synthetic **Mol. Wt.:** 328 **Melting Point (°C):** 96-98 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, warm ethanol<br>**Storage:** room temperature | **25 mg** | **162.00** |
| **1878** | **Methyl 20-hydroxyeicosanoate**<br>*omega*-Hydroxy C20:0 methyl ester $C_{21}H_{42}O_3$<br><br>**Source:** synthetic **Mol. Wt.:** 342 **Melting Point (°C):** 69-71 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, warm ethanol, ethyl ether<br>**Storage:** room temperature | **25 mg** | **162.00** |
| **1880** | **Methyl 21-hydroxyheneicosanoate**<br>*omega*-Hydroxy C21:0 methyl ester $C_{22}H_{44}O_3$<br><br>**Source:** synthetic **Mol. Wt.:** 356 **Melting Point (°C):** 73-76 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, warm ethanol, ethyl ether<br>**Storage:** room temperature | **25 mg** | **184.00** |
| **1818** | **22-Hydroxydocosanoic acid**<br>*omega*-Hydroxy C22:0 fatty acid $C_{22}H_{44}O_3$<br><br>**Source:** synthetic **Mol. Wt.:** 356 **Melting Point (°C):** 100-102 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, warm ethanol<br>**Storage:** room temperature | **25 mg** | **194.00** |

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| **1819** | **Methyl 22-hydroxydocosanoate**<br>*omega*-Hydroxy C22:0 methyl ester $C_{23}H_{46}O_3$<br><br>**Source:** synthetic **Mol. Wt.:** 370 **Melting Point (°C):** 73-75 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, warm ethanol, ethyl ether **Storage:** room temperature | **25 mg** | **194.00** |
| **1883** | **Methyl 27-hydroxyheptacosanoate**<br>*omega*-Hydroxy C27:0 methyl ester $C_{28}H_{56}O_3$<br><br>**Source:** synthetic **Mol. Wt.:** 440 **Melting Point (°C):** 85-89 **Purity:** 97+% by TLC, GC **Appearance:** solid **Solubility:** chloroform **Storage:** room temperature | **25 mg** | **194.00** |
| **1884** | **Methyl 30-hydroxytriacontanoate**<br>*omega*-Hydroxy C30:0 methyl ester $C_{31}H_{62}O_3$<br><br>**Source:** synthetic **Mol. Wt.:** 482 **Melting Point (°C):** 88-91 **Purity:** 97+% by TLC, GC **Appearance:** solid **Solubility:** chloroform **Storage:** room temperature | **25 mg** | **194.00** |

### Other Hydroxy Fatty Acids

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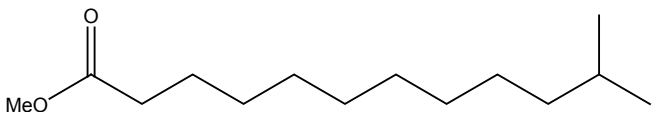
|---|---|---|---|
| **1182** | **Ricinelaidic acid**<br>12-Hydroxy C18:1 (9-*trans*) fatty acid $C_{18}H_{34}O_3$ **CAS#:** 82188-83-8<br><br>**Source:** synthetic **Mol. Wt.:** 298 **Melting Point (°C):** 50-53 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** ethanol, methanol **Storage:** –20°C | **100 mg** | **60.00** |
| **1183** | **Methyl ricinelaidate**<br>12-Hydroxy C18:1 (9-*trans*) methyl ester $C_{19}H_{36}O_3$ **CAS#:** 7706-01-6<br><br>**Source:** synthetic **Mol. Wt.:** 312 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** ethanol, methanol **Storage:** –20°C | **100 mg** | **60.00** |
| **1766** | **6-Hydroxyoctadecanoic acid**<br>6-Hydroxy C18:0 fatty acid $C_{18}H_{36}O_3$<br><br>**Source:** synthetic **Mol. Wt.:** 300 **Melting Point (°C):** 80-82 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** ethanol, methanol **Storage:** room temperature | **10 mg** | **167.00** |

## Branched and Cyclic Fatty Acids

### Iso-Fatty Acids and Esters




Catalog number 1656

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|---|---|---|---|
| **1656** | **Methyl 11-methyldodecanoate**<br>iso-Tridecanoic methyl ester; iso C13 Methyl ester $C_{14}H_{28}O_2$<br>**CAS#:** 5129-57-7<br><br>**Source:** synthetic **Mol. Wt.:** 228 **Purity:** 98+% by GC **Appearance:** liquid **Solubility:** hexane, ethyl ether, methylene chloride **Storage:** –20°C | **20 mg** | **290.00** |

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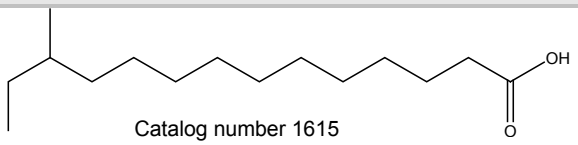
| **1657** | **Methyl 12-methyltridecanoate**<br>iso-Tetradecanoic methyl ester; iso C14 Methyl ester $C_{15}H_{30}O_2$<br>**CAS#:** 5129-58-8<br><br>**Source:** synthetic **Mol. Wt.:** 242 **Purity:** 98+% by GC **Appearance:** liquid<br>**Solubility:** chloroform, ethyl ether, ethanol **Storage:** –20°C | **20 mg** | **290.00** |
| **1605** | **13-Methyltetradecanoic acid**<br>iso-Pentadecanoic acid; iso C15 Fatty acid $C_{15}H_{30}O_2$ **CAS#:** 27836-87-9<br><br>**Source:** synthetic **Mol. Wt.:** 242 **Purity:** 98+% by GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether, ethanol **Storage:** –20°C | **20 mg** | **290.00** |
| **1600** | **Methyl 13-methyltetradecanoate**<br>iso-Pentadecanoic methyl ester; iso C15 Methyl ester $C_{16}H_{32}O_2$<br>**CAS#:** 5129-59-9<br><br>**Source:** synthetic **Mol. Wt.:** 256 **Purity:** 98+% by GC **Appearance:** liquid<br>**Solubility:** chloroform, ethyl ether, ethanol **Storage:** –20°C | **20 mg** | **290.00** |
| **1601** | **Methyl 14-methylpentadecanoate**<br>iso-Palmitic methyl ester; iso C16 Methyl ester $C_{17}H_{34}O_2$ **CAS#:** 5129-60-2<br><br>**Source:** synthetic **Mol. Wt.:** 270 **Purity:** 98+% by GC **Appearance:** liqiud<br>**Solubility:** chloroform, ethyl ether, ethanol **Storage:** –20°C | **20 mg** | **290.00** |
| **1606** | **15-Methylhexadecanoic acid**<br>iso-Heptadecanoic acid; iso C17 Fatty acid $C_{17}H_{34}O_2$ **CAS#:** 1603-03-8<br><br>**Source:** synthetic **Mol. Wt.:** 270 **Purity:** 98+% by GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether, ethanol **Storage:** –20°C | **20 mg** | **290.00** |
| **1602** | **Methyl 15-methylhexadecanoate**<br>iso-Heptadecanoic methyl ester; iso C17 Methyl ester $C_{18}H_{36}O_2$<br>**CAS#:** 6929-04-0<br><br>**Source:** synthetic **Mol. Wt.:** 284 **Purity:** 98+% by GC **Appearance:** liquid<br>**Solubility:** chloroform, ethyl ether, ethanol **Storage:** –20°C | **20 mg** | **290.00** |
| **1603** | **Methyl 17-methyloctadecanoate**<br>iso-Nonadecanoic methyl ester; iso C19 Methyl ester $C_{20}H_{40}O_2$<br>**CAS#:** 55124-97-5<br><br>**Source:** synthetic **Mol. Wt.:** 313 **Purity:** 98+% by GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether, ethanol **Storage:** –20°C | **20 mg** | **290.00** |

## Anteiso-Fatty Acids and Esters




Catalog number 1615

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|---|---|---|---|
| **1615** | **12-Methyltetradecanoic acid**<br>anteiso-Pentadecanoic acid; anteiso C15 Fatty acid $C_{15}H_{30}O_2$ **CAS#:** 5502-94-3<br>**Source:** synthetic **Mol. Wt.:** 242 **Purity:** 98+% by GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether, ethanol **Storage:** –20°C | **20 mg** | **290.00** |
| **1612** | **Methyl 12-methyltetradecanoate**<br>anteiso-Pentadecanoic methyl ester; anteiso C15 Methyl ester $C_{16}H_{32}O_2$<br>**CAS#:** 5129-66-8<br>**Source:** synthetic **Mol. Wt.:** 256 **Purity:** 98+% by GC **Appearance:** liquid<br>**Solubility:** chloroform, ethyl ether, ethanol **Storage:** –20°C | **20 mg** | **290.00** |
| **1613** | **Methyl 13-methylpentadecanoate**<br>anteiso-Palmitic methyl ester; anteiso C16 Methyl ester $C_{17}H_{34}O_2$<br>**CAS#:** 5487-50-3<br>**Source:** synthetic **Mol. Wt.:** 270 **Purity:** 98+% by GC **Appearance:** liquid<br>**Solubility:** chloroform, ethyl ether, ethanol **Storage:** –20°C | **20 mg** | **290.00** |
| **1616** | **14-Methylhexadecanoic acid**<br>anteiso-Heptadecanoic acid; anteiso C17 Fatty acid $C_{17}H_{34}O_2$ **CAS#:** 5918-29-6<br>**Source:** synthetic **Mol. Wt.:** 270 **Purity:** 98+% by GC **Appearance:** solid<br>**Solubility:** chloroform, ethyl ether, ethanol **Storage:** –20°C | **20 mg** | **290.00** |
| **1614** | **Methyl 14-methylhexadecanoate**<br>anteiso-Heptadecanoic methyl ester; anteiso C17 Methyl ester $C_{18}H_{36}O_2$<br>**CAS#:** 2490-49-5<br>**Source:** synthetic **Mol. Wt.:** 284 **Purity:** 98+% by GC **Appearance:** liquid<br>**Solubility:** chloroform, ethyl ether, ethanol **Storage:** –20°C | **20 mg** | **290.00** |

## Methylated Fatty Acids

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|---|---|---|---|
| **1207** | **D,L-2,6-Dimethylheptanoic acid**<br>2,6-Dimethyl C7:0 fatty acid $C_9H_{18}O_2$<br>**Source:** synthetic **Mol. Wt.:** 158 **Purity:** 98+% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform **Storage:** room temperature | **50 mg** | **120.00** |

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|---|---|---|---|
| **1791** | **10-Methylhexadecanoic acid**<br>10-Methyl C16:0 fatty acid $C_{17}H_{34}O_2$<br><br>**Source:** synthetic **Mol. Wt.:** 270 **Purity:** 98+% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform **Storage:** room temperature | **25 mg** | **176.00** |
| **1792** | **Methyl 10-methylhexadecanoate**<br>10-Methyl C16:0 methyl ester $C_{18}H_{36}O_2$<br><br>**Source:** synthetic **Mol. Wt.:** 284 **Purity:** 98+% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform **Storage:** room temperature | **25 mg** | **176.00** |
| **1195** | **Phytanic acid**<br>3,7,11,15-Tetramethylhexadecanoic acid $C_{20}H_{40}O_2$ **CAS#:** 14721-66-5<br><br>**Source:** semi-synthetic **Mol. Wt.:** 312 **Purity:** 97+% by GC **Appearance:** solid<br>**Solubility:** chloroform, methanol **Storage:** –20°C | **25 mg** | **251.00** |

## Cyclopropyl Fatty Acids and Esters

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|---|---|---|---|
| **1822** | **Methyleneoctadecanoic acid (all *cis*-9,10)**<br>Dihydrosterculic acid $C_{19}H_{36}O_2$ **CAS#:** 4675-61-0<br><br>**Source:** synthetic **Mol. Wt.:** 296 **Melting Point (°C):** 38-42 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol, hexane<br>**Storage:** –20°C | **25 mg** | **135.00** |
| **1823** | **Methyl *cis*-9,10-methyleneoctadecanoate, C19:0 *delta* (all *cis*-9,10)**<br>Methyl dihydrosterculate $C_{20}H_{38}O_2$ **CAS#:** 3971-54-8<br><br>**Source:** synthetic **Mol. Wt.:** 310 **Purity:** 98+% by TLC, GC **Appearance:** liquid<br>**Solubility:** chloroform, ethanol, methanol, hexane **Storage:** –20°C | **25 mg** | **135.00** |

## Unusual Fatty Acids and Derivatives

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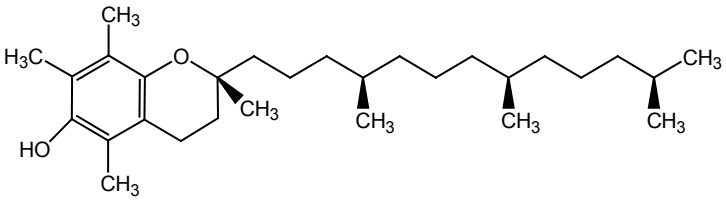
|---|---|---|---|
| **1751** | **N-Oleoylethanolamine**<br>NOE $C_{20}H_{39}NO_2$ **CAS#:** 111-58-0<br><br>**Source:** synthetic **Mol. Wt.:** 326 **Melting Point (°C):** 63-66 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol, ethyl ether, DMSO<br>**Storage:** –20°C<br><br>Activity: acid ceramidase inhibitor | **100 mg** | **163.00** |
| **1786** | **N-Hexadecanoylethanolamine**<br>$C_{18}H_{37}NO_2$ **CAS#** 544-31-0<br><br>**Source:** synthetic **Mol. Wt.:** 299 **Melting Point (°C):** 99-102 **Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform, ethanol, methanol, **Storage:** –20°C<br><br>Activity: inactive as acid ceramidase inhibitor | **100 mg** | **114.00** |

# Other Lipids

## Tocopherols

Catalog number 1072

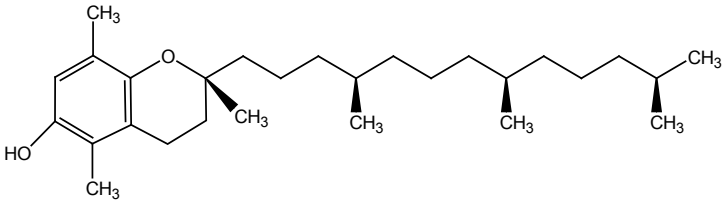


**1072** ***rac-alpha*-Tocopherol** **50 mg/ml, 1 ml** **103.00**

5,7,8-Trimethyltocol $C_{29}H_{50}O_2$ **CAS#:** 59-02-9

**Source:** synthetic **Mol. Wt.:** 431 **Purity:** 95% by TLC, 98% by GC
**Appearance:** liquid **Solvent:** hexane **Solubility:** chloroform, ethanol, hexane, methanol **Storage:** –20°C

Catalog number 1071

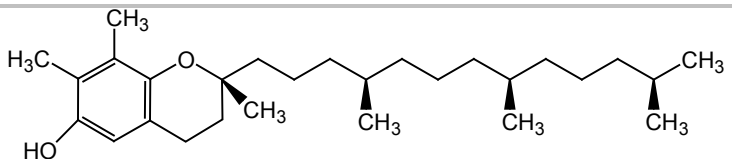


**1071** ***rac-beta*-Tocopherol** **50 mg/ml, 1 ml** **154.00**

5,8-Dimethyltocol $C_{28}H_{48}O_2$ **CAS#:** 148-03-8

**Source:** synthetic **Mol. Wt.:** 417 **Purity:** 95% by TLC, 98% by GC
**Appearance:** liquid **Solvent:** hexane **Solubility:** chloroform, ethanol, hexane, methanol **Storage:** –20°C

Catalog number 1073

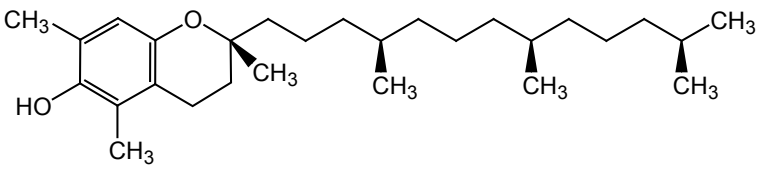


**1073** ***rac-gamma*-Tocopherol** **50 mg/ml, 1 ml** **154.00**

7,8-Dimethyltocol $C_{28}H_{48}O_2$ **CAS#:** 73980-80-0

**Source:** synthetic **Mol. Wt.:** 417 **Purity:** 95% by TLC, 97% by GC
**Appearance:** liquid **Solvent:** hexane **Solubility:** chloroform, ethanol, hexane, methanol **Storage:** –20°C

Catalog number 1074



**1074** ***rac*-5,7-Dimethyltocol** **50 mg/ml, 1 ml** **154.00**
$C_{28}H_{48}O_2$ **CAS#:** 493-35-6

**Source:** synthetic **Mol. Wt.:** 417 **Purity:** 95% by TLC, 98% by GC
**Appearance:** liquid **Solvent:** hexane **Solubility:** hexane, ethyl ether, chloroform, alcohols **Storage:** –20°C

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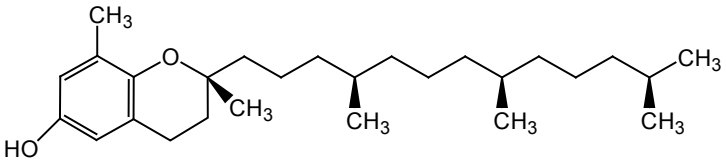
Catalog number 1790



**1790** **(+)-*delta*-Tocopherol** **50 mg/ml, 1 ml** **138.00**
8-Methyltocol $C_{27}H_{46}O_2$ **CAS#:** 119-13-1

**Source:** natural, plant **Mol. Wt.:** 403 **Purity:** 95% by TLC, 98% by GC
**Appearance:** liquid **Solvent:** hexane **Solubility:** chloroform, ethanol, hexane, methanol **Storage:** –20°C

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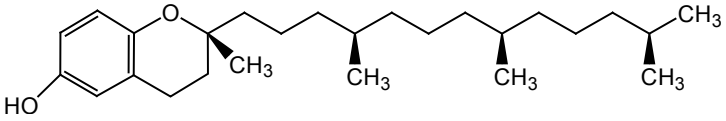
Catalog number 1797

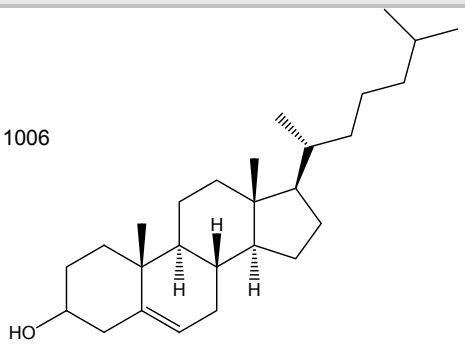


**1797** **Tocol** **50 mg/ml, 1 ml** **145.00**
*rac*-Tocol $C_{26}H_{44}O_2$

**Source:** synthetic **Mol. Wt.:** 389 **Purity:** 95% by TLC, 98% by GC
**Appearance:** liquid **Solvent:** hexane **Solubility:** hexane, methanol, ethanol
**Storage:** –20°C

## Cholestane Derivatives

Catalog number 1006




**1006** **Cholesterol** **500 mg** **53.00**
$C_{27}H_{46}O$ **CAS#:** 57-88-5

**Source:** natural, ovine **Mol. Wt.:** 387 **Melting Point (°C):** 147-148 **Purity:** 98+% by TLC, GC **Appearance:** solid **Solubility:** chloroform, ethanol **Storage:** –20°C

**1115** **5-*alpha*-Cholestane** **100 mg** **85.00**
$C_{27}H_{48}$ **CAS#:** 481-21-0

**Source:** synthetic **Mol. Wt.:** 373 **Purity:** 98+% by GC **Appearance:** solid **Solubility:** chloroform, ethyl ether, hexane **Storage:** –20°C

**1116** **Coprostanol** **25 mg** **154.00**
5-*beta*-Cholestan-3-*beta*-ol $C_{27}H_{48}O$ **CAS#:** 360-68-9

**Source:** semisynthetic **Mol. Wt.:** 389 **Melting Point (°C):** 101-103 **Purity:** 98+% by GC **Appearance:** solid **Solubility:** chloroform, ethyl ether, warm methanol **Storage:** –20°C

## Plant Sterols and Steryl Glucosides

**1119** **Plant Sterol Mixture** **25 mg/ml, 1 ml** **93.00**
Sterol mixture, qualitative

**Source:** natural, plant **Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform **Storage:** –20°C

Contains: Brassicasterol, Campesterol, Stigmasterol, *beta*-Sitosterol, in order of elution

**1123** **Plant Sterols Kit** **1 kit** **387.00**

**Source:** synthetic or plant **Appearance:** liquid/solid **Solvent:** chloroform **Solubility:** chloroform **Storage:** –20°C

Contains in individual packages: steryl glucosides 25 mg, esterified steryl glucosides 10 mg, plant sterol mixture 25 mg, β-sitosterol (55%) 100 mg, desmosterol (85%) 2 mg, lanosterol (55%) 100 mg, stigmasterol 25 mg, ergosterol 25 mg, coprostanol 5 mg, cholestanol 100 mg

| | | | |
|---|---|---|---|
| **1113** | ***beta*-Sitostanol**<br>Stigmastanol $C_{29}H_{52}O$ **CAS#:** 19466-47-8<br><br>**Source:** synthetic **Mol. Wt.:** 417 **Melting Point (°C):** 127-132 **Purity:** 98+% by TLC, 97+% by GC **Appearance:** solid **Solubility:** chloroform **Storage:** –20°C | **50 mg** | **73.00** |
| **1120** | **Lanosterol**<br>$C_{30}H_{50}O$ **CAS#:** 79-63-0<br><br>**Source:** synthetic or plant **Mol. Wt.:** 427 **Purity:** 55% by TLC, GC **Appearance:** solid **Solubility:** chloroform **Storage:** –20°C | **500 mg** | **73.00** |
| **1121** | **Stigmasterol**<br>5,22-Cholestadien-24-*beta*-ethyl-3-*beta*-ol $C_{29}H_{48}O$ **CAS#:** 83-48-7<br><br>**Source:** synthetic **Mol. Wt.:** 413 **Melting Point (°C):** 165-167 **Purity:** 95% by TLC, GC **Appearance:** solid **Solubility:** chloroform **Storage:** –20°C | **100 mg** | **73.00** |
| **1122** | **Ergosterol**<br>$C_{28}H_{44}O$ **CAS#:** 57-87-4<br><br>**Source:** synthetic or plant **Mol. Wt.:** 397 **Melting Point (°C):** 156-158 **Purity:** 95% by TLC, GC **Appearance:** solid **Solubility:** chloroform **Storage:** –20°C | **100 mg** | **54.00** |
| **1117** | **Steryl glucosides**<br>$C_{35}H_{60}O_6$<br><br>**Source:** natural, plant **Mol. Wt.:** 577 (based on β-sitosteryl glucoside)<br>**Melting Point (°C):** 283-287 **Purity:** 98+% by TLC **Appearance:** solid<br>**Solubility:** chloroform/methanol/DI water, 2:1:0.1 (warm) **Storage:** –20°C | **25 mg** | **88.00** |
| **1118** | **Esterified Steryl Glucosides**<br>1:1:1, sterol:glucose:fatty acid $C_{51}H_{90}O_7$<br><br>**Source:** natural, plant **Mol. Wt.:** 815 (based on β-sitosteryl glucoside palmitate)<br>**Purity:** 98+% by TLC **Appearance:** solid **Solubility:** chloroform, ethyl ether, pyridine **Storage:** –20°C<br><br>Sterol, glucose and fatty acid in a molar ratio 1:1:1. | **10 mg** | **99.00** |

# Standards and Reference Compounds

## Food Industry Mixtures

Each methyl ester mixture is carefully prepared by weight.

**4210** **KEL-FIM-FAME-5 Mixture** **15.5 mg/ml, 1 ml** **85.00**
Methyl ester mixture

**Source:** synthetic or plant **Appearance:** liquid **Solvent:** heptane **Solubility:** heptane **Storage:** –20°C

Contains the methyl esters of the following fatty acids (mg/ml in brackets): C8:0 [0.3], C10:0 [0.5], C12:0 [1.0], C13:0 [0.5], C14:0 [0.5], C14:1 [0.3], C15:0 [0.3], C16:0 [2.0], C16:1 [1.0], C17:0 [0.5], C18:0 [1.0], C18:1tr [0.4], C18:1c [3.0], C18:2 [2.0], C20:0 [0.3], C18:3 [1.0], C20:1 [0.3], C22:0 [0.3], C22:1 [0.3], listed in order of their elution.

**2009** **FIM-FAME-6 Mixture** **33 mg/ml, 1 ml** **114.00**
Methyl ester mixture

**Source:** synthetic or plant **Appearance:** liquid **Solvent:** heptane **Storage:** –20°C

Contains the methyl esters of these fatty acids. Each methyl ester is 3.03% of the mixture except C16:0 which is 6.06%. C4:0 , C6:0 , C8:0, C10:0 , C11:0, C12:0, C13:0 , C14:0, C14:1(*cis*-9), C15:0, C15:1(*cis*-10), C16:0, C16:1(*cis*-9), C17:0, C17:1(*cis*-10), C18:0, C18:1(*trans*-9), C18:1(*cis*-9), C18:2(all *cis*-9,12), C20:0, C18:3(all *cis*-6,9,12), C20:1(*cis*-11), C18:3(all *cis*-9,12,15), C20:2(all *cis*-11,14), C22:0, C20:3(all *cis*-8,11,14), C22:1(*cis*-13), C20:3(all *cis*-11,14,17), C20:4(all *cis*-5,8,11,14), C22:2(all *cis*-13,16), C24:1(*cis*-15), C22:6(all *cis*-4,7,10,13,16,19), listed in order of their elution.

**2010** **FIM-FAME-7 Mixture** **30 mg/ml, 1 ml** **114.00**
Methyl ester mixture

**Source:** synthetic or plant **Appearance:** liquid **Solvent:** methylene chloride **Solubility:** methylene chloride **Storage:** –20°C

Contains the methyl esters of these fatty acids (weight percent in [brackets]): C4:0 [4.0], C6:0 [4.0], C8:0 [4.0], C10:0 [4.0], C11:0 [2.0], C12:0 [4.0], C13:0 [2.0], C14:0 [4.0], C14:1(*cis*-9) [2.0], C15:0 [2.0], C15:1(*cis*-10) [2.0], C16:0 [6.0], C16:1(*cis*-9) [2.0], C17:0 [2.0], C17:1(*cis*-10) [2.0], C18:0 [4.0], C18:1(*trans*-9) [2.0], C18:1(*cis*-9) [4.0], C18:2(all *trans*-9,12) [2.0], C18:2(all *cis*-9,12) [2.0], C20:0 [4.0], C18:3(all *cis*-6,9,12) [2.0], C20:1(*cis*-11) [2.0], C18:3(all *cis*-9,12,15) [2.0], C21:0 [2.0], C20:2(all *cis*-11,14) [2.0], C22:0 [4.0], C20:3 (all *cis*-8,11,14) [2.0], C22:1(*cis*-13) [2.0], C20:3(all cis-11,14,17) [2.0], C20:4(all *cis*-5,8,11,14) [2.0], C23:0 [2.0], C22:2(all *cis*-13,16) [2.0], C24:0 [4.0], C20:5(all *cis*-5,8,11,14,17) [2.0], C24:1(*cis*-15) [2.0], C22:6(all *cis*-4,7,10,13,16,19) [2.0], listed in order of their elution.

## Polyunsaturated Fatty Acid Methyl Esters Mixtures

These are complex qualitative standard mixtures of polyunsaturated fatty acid methyl esters. Because they are extracted from natural materials, relative peak sizes may vary from lot to lot.

**1093** **PUFA-1** **100 mg** **111.00**
Qualitative mixture

**Source:** natural, fish oil **Appearance:** liquid **Solubility:** chloroform, ethanol, hexane, methanol **Storage:** –20°C

Contains: C14:0, C16:0, C16:1ω7, C18:1ω9, C18:1ω7, C18:2ω6, C20:1ω9, C18:4ω3, C22:1ω11, C22:1ω9, C20:5ω3, C22:5ω3, C22:6ω3

**1081** **PUFA-2** **100 mg** **122.00**
Qualitative mixture

**Source:** natural, porcine **Appearance:** liquid **Solubility:** alcohols, hexane, chloroform **Storage:** –20°C

Contains: C14:0, C16:0, C16:1ω7, C18:0, C18:1ω9, C18:1ω7, C18:2ω6, C18:3ω6, C18:3ω3, C20:1ω9, C20:2ω6, C20:3ω6, C20:4ω6, C20:5ω3, C22:4ω6, C22:5ω3, C22:6ω3

**1177** **PUFA-3** **100 mg** **122.00**
Qualitative mixture

**Source:** natural, menhaden oil **Appearance:** liquid **Solubility:** alcohols, hexane, chloroform **Storage:** –20°C

Contains: C14:0, C16:0, C16:1ω7, C16:2ω4, C16:3ω4, C16:4ω1, C18:0, C18:1ω9, C18:1ω7, C18:2ω6, C18:2ω4, C18:3ω4, C18:3ω3, C18:4ω3, C20:1ω9, C20:4ω6, C20:4ω3, C20:5ω3, C21:5ω3, C22:5ω3, C22:6ω3

## Carbohydrate Mixtures

**1124** **Alditol Acetate Mixture-1** **50 mg/ml, 1 ml** **139.00**
Quantitative carbohydrate mixture

**Source:** synthetic **Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform **Storage:** –20°C

Contains: rhamnitol, fucitol, ribitol and arabinitol pentaacetates, 12.5 mg/ml each

**1125** **Alditol Acetate Mixture-2** **50 mg/ml, 1 ml** **139.00**
Quantitative carbohydrate mixture

**Source:** synthetic **Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform **Storage:** –20°C

Contains: mannitol, galactitol, glucitol and inositol hexaacetates, 12.5 mg/ml each

## Other Fatty Acid Methyl Ester Mixtures

**1722** **2-Hydroxy Methyl Ester Mixture** **10 mg/ml, 1 ml** **114.00**

**Source:** synthetic **Appearance:** liquid **Solvent:** chloroform **Solubility:** chloroform **Storage:** –20°C

Quantitative mix contains: C14:0, 20.0%; C16:0, 20.0%; C18:0, 15.0%; C20:0, 15.0%; C22:0, 10.0%; C23:0, 10.0%; C24:0, 10.0%

**1131** **Cis-Trans Isomer Standard Mixture** **5 mg/ml, 5 ml** **135.00**

**Source:** margarine **Appearance:** liquid **Solvent:** 5ml methylene chloride **Solubility:** methylene chloride, chloroform **Storage:** –20°C

Analysis of positional *cis-trans* fatty acid isomers is ever more important in light of the new food industry rules. These isomers can be resolved on Supelco SP-2560 or an equivalent capillary GC column. Use this specially formulated mixture to ensure proper operation of your column for this tricky separation. Mixture consists of *cis-trans* fatty acid isomers as methyl esters in methylene chloride.

This is a qualitative standard containing in order of elution: C16:0, C18:0, C18:1 *trans* isomers (4 peaks), C18:1 *cis* & *trans* isomers (2 peaks), C18:1 *cis* isomers (4 peaks), C18:2, C20:0, C20:1 and C18:3 (same peak), C22:0

**2011** **Long Chain Fatty Acid Methyl Ester Mixture** **25 mg/ml, 1 ml** **99.00**

C24:0, C26:0, C28:0, C30:0, C32:0 Fatty acid methyl ester mixture

**Source:** synthetic **Appearance:** liquid **Solvent:** methylene chloride **Solubility:** methylene chloride **Storage:** –20°C

Quantitative mixture contains:
C24:0, 20.0%; C26:0, 20.0%; C28:0, 20.0%; C30:0, 20.0%; C32:0, 20.0%

## AOCS Animal and Vegetable Oil Reference Mixtures (RM Mixtures)

By studying problems with the quantitative analysis of animal and vegetable oils and fats, the American Oil Chemists' Society has found certain mixtures to be useful as reference standards. The composition of each mixture (see Table I below) is similar to the fatty acid distribution of certain oils. All mixtures are in methyl ester form and ready for GC analysis

### Table I. AOCS Oil Reference Mixtures

Each methyl ester mixture is carefully prepared by weight and the composition verified by gas chromatography. The weight percentage of each component is indicated in the Table.

| Mix No.<br>Catalog No. | RM-1<br>1084 | RM-2<br>1085 | RM-3<br>1086 | Rapeseed<br>1083 | RM-4<br>1087 | RM-5<br>1088 | RM-6<br>1089 |
|---|---|---|---|---|---|---|---|
| C8:0 Caprylate | | | | | | 7.0 | |
| C10:0 Caprate | | | | | | 5.0 | |
| C12:0 Laurate | | | | | | 48.0 | |
| C14:0 Myristate | | | 1.0 | 1.0 | | 15.0 | 2.0 |
| C16:0 Palmitate | 6.0 | 7.0 | 4.0 | 4.0 | 11.0 | 7.0 | 30.0 |
| C16:1 Palmitoleate (*cis*-9) | | | | | | | 3.0 |
| C18:0 Stearate | 3.0 | 5.0 | 3.0 | 3.0 | 3.0 | 3.0 | 14.0 |
| C18:1 Oleate (*cis*-9) | 35.0 | 18.0 | 45.0 | 60.0 | 80.0 | 12.0 | 41.0 |
| C18:2 Linoleate (all *cis*-9,12) | 50.0 | 36.0 | 15.0 | 12.0 | 6.0 | 3.0 | 7.0 |
| C18:3 Linolenate (all *cis*-9,12,15) | 3.0 | 34.0 | 3.0 | 5.0 | | | 3.0 |
| C20:0 Arachidate | 3.0 | | 3.0 | 3.0 | | | |
| C20:1 Eicosenoate (*cis*-11) | | | | 1.0 | | | |
| C22:0 Behenate | | | 3.0 | 3.0 | | | |
| C22:1 Erucate (*cis*-13) | | | 20.0 | 5.0 | | | |
| C24:0 Lignocerate | | | 3.0 | 3.0 | | | |

**1083** **Rapeseed Oil Reference Mixture** **25 mg/ml, 1 ml** **54.00**

**Source:** synthetic or plant **Appearance:** liquid **Solvent:** methylene chloride
**Solubility:** ethyl ether, methylene chloride **Storage:** –20°C

Suitable standard for low erucic acid oil

**1084** **RM-1 Mixture** **50 mg** **54.00**

**Source:** synthetic or plant **Appearance:** liquid **Solubility:** chloroform, ethyl ether
**Storage:** –20°C

Suitable standard for corn, cottonseed, soybean, safflower, sesame, poppy seed, walnut kapok, and rice oils

| | | | |
|---|---|---|---|
| **1085** | **RM-2 Mixture** | **50 mg** | **54.00** |

**Source:** synthetic or plant **Appearance:** liquid **Solubility:** chloroform, ethanol, ethyl ether **Storage:** –20°C

Suitable standard for linseed, perilla, hempseed, and rubberseed oils

| | | | |
|---|---|---|---|
| **1086** | **RM-3 Mixture** | **50 mg/ml, 1 ml** | **54.00** |

**Source:** synthetic or plant **Appearance:** liquid **Solvent:** methylene chloride **Solubility:** ethyl ether, methylene chloride **Storage:** –20°C

Suitable standards for peanut, rapeseed, and mustard seed oils

| | | | |
|---|---|---|---|
| **1087** | **RM-4 Mixture** | **50 mg** | **54.00** |

**Source:** synthetic or plant **Appearance:** liquid **Solubility:** chloroform, ethyl ether **Storage:** –20°C

Suitable standard for olive, teaseed, and neatsfoot oils

| | | | |
|---|---|---|---|
| **1088** | **RM-5 Mixture** | **50 mg** | **54.00** |

**Source:** synthetic or plant **Appearance:** liquid **Solubility:** chloroform **Storage:** –20°C

Suitable standard for coconut, palm kernel, babassu and ouri-ouri oils

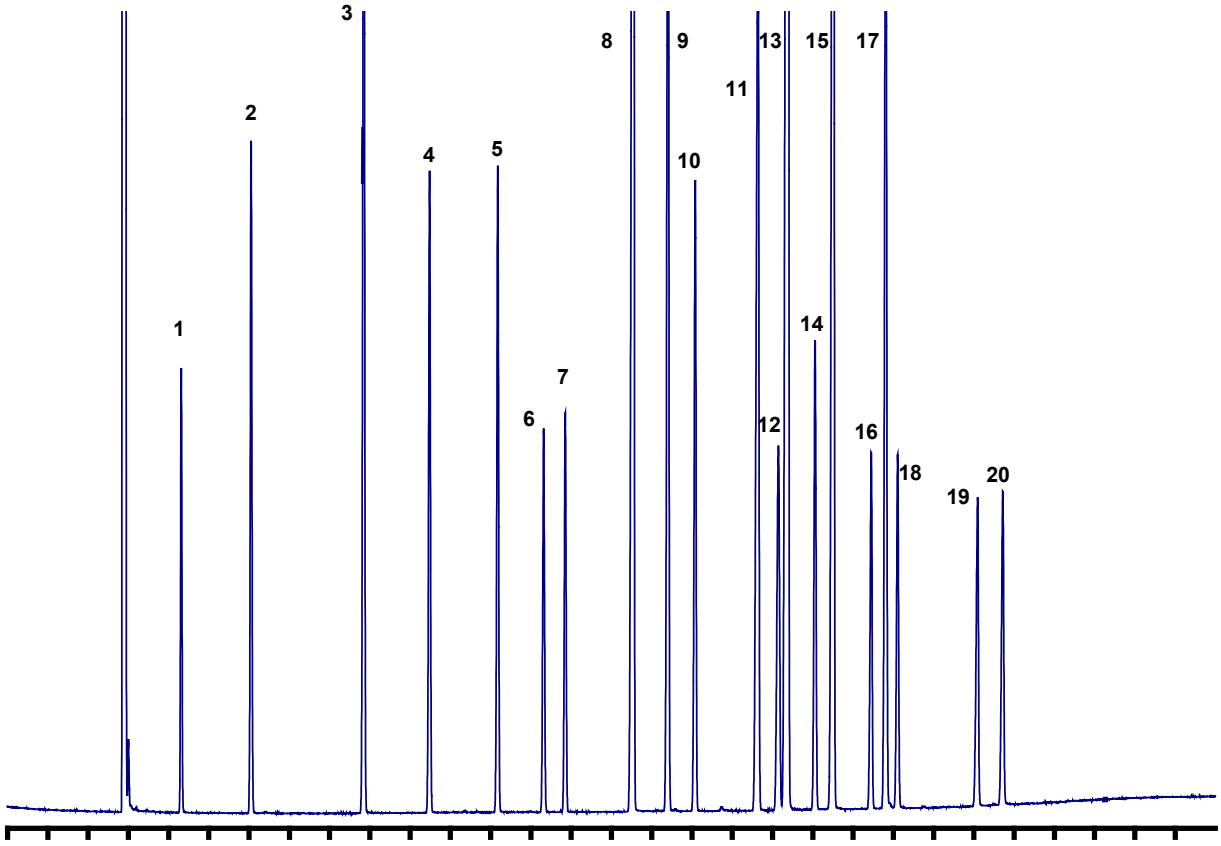
| | | | |
|---|---|---|---|
| **1089** | **RM-6 Mixture** | **50 mg** | **54.00** |

**Source:** synthetic or plant **Appearance:** liquid **Solubility:** ethyl ether, methylene chloride **Storage:** –20°C

Suitable standard for lard, beef tallow, mutton tallow, and palm oil

**Custom Mixtures**

Custom fatty acid methyl ester mixtures can be prepared to your specification. Minimum quantity requirements apply to these orders.




Cat# 4210 spiked with 0.4 mg/ml C18:2t ester (methyl linoelaidate) and chromatographed on a Supelco SP 2330 fused silica column.

| Peak number | FAME |
|---|---|
| 1 | C8:0 |
| 2 | C10:0 |
| 3 | C12:0 |
| 4 | C13:0 |
| 5 | C14:0 |
| 6 | C14:1 |
| 7 | C15:0 |
| 8 | C16:0 |
| 9 | C16:1 |
| 10 | C17:0 |
| 11 | C18:0 |
| 12 | C18:1t-9 |
| 13 | C18:1c-9 |
| 14 | C18:2t,t-9,12 |
| 15 | C18:2c,c-9,12 |
| 16 | C20:0 |
| 17 | C18:3 |
| 18 | C20:1 |
| 19 | C22:0 |
| 20 | C22:1 |

## Table II. Standards for GC Analysis

## GLC Standard Mixtures

GLC-10 through GLC-100 standards are **equal weight measures** of fatty acid methyl esters. They are **quantitative** standards, useful for determining relative **retention times and response factors.**

Each methyl ester mixture is carefully prepared by weight and the composition verified by gas chromatography. The weight percentage of each component is indicated below. All double bonds are *cis*.

| Mixture Number<br>Catalog Number | GLC-10<br>1095 | GLC-30<br>1097 | GLC-40<br>1098 | GLC-50<br>1099 | GLC-60<br>1100 | GLC-70<br>1101 | GLC-80<br>1102 | GLC-90<br>1103 | GLC-100<br>1104 |
|---|---|---|---|---|---|---|---|---|---|
| C8:0 Caprylate | | 20.0 | | | | 20.0 | | | |
| C9:0 Nonanoate | | | | | | 20.0 | | | |
| C10:0 Caprate | | 20.0 | | | | 20.0 | | | |
| C11:0 Undecanoate | | | | | | 20.0 | | | |
| C12:0 Laurate | | 20.0 | | | | 20.0 | | | |
| C13:0 Tridecanoate | | | | | | | 20.0 | 20.0 | |
| C14:0 Myristate | | 20.0 | | | | | 20.0 | | |
| C15:0 Pentadecanoate | | | | | | | 20.0 | 20.0 | |
| C16:0 Palmitate | 20.0 | 20.0 | 25.0 | | | | 20.0 | | |
| C16:1 Palmitoleate (*cis*-9) | | | | 20.0 | | | | | |
| C17:0 Heptadecanoate | | | | | | | 20.0 | 20.0 | |
| C18:0 Stearate | 20.0 | | 25.0 | | | | | | 20.0 |
| C18:1 Oleate (*cis*-9) | 20.0 | | | 20.0 | | | | | |
| C18:2 Linoleate (all *cis*-9,12) | 20.0 | | | | | | | | |
| C18:3 Linolenate (all *cis*-9,12,15) | 20.0 | | | | | | | | |
| C19:0 Nonadecanoate | | | | | | | | 20.0 | 20.0 |
| C20:0 Arachidate | | | 25.0 | | 25.0 | | | | 20.0 |
| C20:1 Eicosenoate (*cis*-11) | | | | 20.0 | 25.0 | | | | |
| C20:2 Eicosadienoate (all *cis*-11,14) | | | | | 25.0 | | | | |
| C20:3 Eicosatrienoate (all *cis*-11,14,17) | | | | | 25.0 | | | | |
| C21:0 Heneicosanoate | | | | | | | | 20.0 | 20.0 |
| C22:0 Behenate | | | 25.0 | | | | | | 20.0 |
| C22:1 Erucate (*cis*-13) | | | | 20.0 | | | | | |
| C24:1 Nervonate (*cis*-15) | | | | 20.0 | | | | | |

**1095** **GLC-10 Mixture** **50 mg** **54.00**

**Source:** synthetic or plant **Appearance:** liquid **Solubility:** methylene chloride
**Storage:** –20°C

**1097** **GLC-30 Mixture** **50 mg** **54.00**

**Source:** synthetic or plant **Appearance:** liquid **Solubility:** methylene chloride
**Storage:** –20°C

**1098** **GLC-40 Mixture** **50 mg/ml, 1 ml** **54.00**

**Source:** synthetic or plant **Appearance:** liquid **Solvent:** methylene chloride
**Solubility:** methylene chloride **Storage:** –20°C

| | | | |
|---|---|---|---|
| **1099** | **GLC-50 Mixture**<br>**Source:** synthetic or plant **Appearance:** liquid **Solvent:** methylene chloride<br>**Solubility:** methylene chloride **Storage:** –20°C | **50 mg/ml, 1 ml** | **54.00** |
| **1100** | **GLC-60 Mixture**<br>**Source:** synthetic or plant **Appearance:** liquid **Solvent:** methylene chloride<br>**Solubility:** methylene chloride **Storage:** –20°C | **50 mg/ml, 1 ml** | **54.00** |
| **1101** | **GLC-70 Mixture**<br>**Source:** synthetic or plant **Appearance:** liquid **Solubility:** methylene chloride<br>**Storage:** –20°C | **50 mg** | **54.00** |
| **1102** | **GLC-80 Mixture**<br>**Source:** synthetic or plant **Appearance:** liquid **Solvent:** methylene chloride<br>**Solubility:** methylene chloride **Storage:** –20°C | **50 mg/ml, 1 ml** | **54.00** |
| **1103** | **GLC-90 Mixture**<br>**Source:** synthetic or plant **Appearance:** liquid **Solvent:** methylene chloride<br>**Solubility:** methylene chloride **Storage:** –20°C | **50 mg/ml, 1 ml** | **54.00** |
| **1104** | **GLC-100 Mixture**<br>**Source:** synthetic or plant **Appearance:** liquid **Solvent:** methylene chloride<br>**Solubility:** methylene chloride **Storage:** –20°C | **50 mg/ml, 1 ml** | **128.00** |

## Water Soluble Fatty Acid Mixtures

| | | | |
|---|---|---|---|
| **1106** | **WSFA-2 Mixture**<br>Water soluble fatty acid qualitative mixture<br>**Appearance:** liquid **Solvent:** DI water **Solubility:** DI water **Storage:** Room Temp<br>Contains: acetic, propionic, isobutyric, n-butyric, isovaleric and n-valeric acids | **5 ml** | **107.00** |
| **1108** | **WSFA-4 Mixture**<br>Water soluble fatty acid qualitative mixture<br>**Appearance:** liquid **Solvent:** DI water **Solubility:** DI water **Storage:** Room Temp<br>Contains: acetic, propionic, isobutyric, n-butyric, 2-methylbutyric, isovaleric and n-valeric acids | **5 ml** | **107.00** |

## Microbiology Standard Mixtures

**1105** **GLC-110 Mixture** **10 mg/ml, 1 ml** **128.00**

Bacterial lipid standard, qualitative mixture

**Source:** various **Appearance:** liquid **Solvent:** chloroform **Solubility:** methylene chloride, chloroform **Storage:** –20°C

Contains:

| | | | |
|---|---|---|---|
| Methyl 12-methyltridecanoate | (iso-C14:0) | Methyl 14-methylpentadecanoate | (iso-C16:0) |
| Methyl tetradecanoate (myristate) | (C14:0) | Methyl hexadecanoate (palmitate) | (C16:0) |
| Methyl 12-methyltetradecanoate | (anteiso-C15:0) | Methyl 14-methylhexadecanoate | (anteiso-C17:0) |
| Methyl pentadecanoate | (C15:0) | | |

**1114** **Bacterial Acid Methyl Esters CP Mixture** **10 mg/ml, 1 ml** **176.00**

Qualitative mixture

**Source:** various **Appearance:** liquid **Solvent:** methyl caproate **Solubility:** hexane, ethanol, methanol **Storage:** –20°C

A qualitative standard. Mixture consists of equal amounts of the compounds listed.

| | | | |
|---|---|---|---|
| Methyl undecanoate | C11:0 | Methyl cis-9-hexadecenoate (palmitoleate) | C16:1(cis-9) |
| Methyl 2-hydroxydecanoate | 2-OH C10:0 | Methyl hexadecanoate (palmitate) | C16:0 |
| Methyl dodecanoate (laurate) | C12:0 | Methyl 15-methylhexadecanoate | iso-C17:0 |
| Methyl tridecanoate | C13:0 | Methyl cis-9,10-methylenehexadecanoate | C17:0Δ (all cis-9,10) |
| Methyl 2-hydroxydodecanoate | 2-OH C12:0 | Methyl heptadecanoate (margarate) | C17:0 |
| Methyl 3-hydroxydodecanoate | 3-OH C12:0 | Methyl 2-hydroxyhexadecanoate | 2-OH C16:0 |
| Methyl tetradecanoate (myristate) | C14:0 | Methyl cis-9,12-octadecadienoate (linoleate) | C18:2 (all cis-9,12) |
| Methyl 13-methyltetradecanoate | iso-C15:0 | Methyl cis-9-octadecenoate (oleate) | C18:1(cis-9) |
| Methyl 12-methyltetradecanoate | anteiso-C15:0 | Methyl trans-9-octadecenoate (elaidate) | C18:1 (trans-9) |
| Methyl pentadecanoate | C15:0 | Methyl octadecanoate (stearate) | C18:0 |
| Methyl 2-hydroxytetradecanoate | 2-OH C14:0 | Methyl cis-9,10-methyleneoctadecanoate | C19:0Δ (all cis-9,10) |
| Methyl 3-hydroxytetradecanoate | 3-OH C14:0 | Methyl nonadecanoate | C19:0 |
| Methyl 14-methylpentadecanoate | iso-C16:0 | Methyl eicosanoate (arachidate) | C20:0 |

**1075** **Volatile Acid Mixture** **100 ml** **133.00**

Qualitative mixture

**Appearance:** liquid **Solvent:** DI water **Solubility:** DI water
**Storage:** 4-8°C

Contains: formic, acetic, propionic, isobutyric, n-butyric, isovaleric, n-valeric, isocaproic, n-caproic, and heptanoic acids

**1077** **Non-Volatile Acid Mixture** **100 ml** **133.00**

Qualitative mixture

**Appearance:** liquid **Solvent:** DI water **Solubility:** DI water
**Storage:** 4-8°C

Contains: pyruvic, lactic, oxalacetic, oxalic, methyl malonic, malonic, fumaric and succinic acids.

## Biochemical Research Standard Mixtures

These mixtures are prepared by precise gravimetric technique. All mixtures contain equal amounts of listed components. A data sheet is supplied with each mixture.

**1127** **Polar Lipid Mixture** **25 mg/ml, 1 ml** **103.00**
TLC standards mixture

**Source:** natural, egg, ovine **Appearance:** liquid **Solvent:** chloroform/methanol, 2:1
**Solubility:** chloroform/methanol, 2:1 **Storage:** −20°C

Contains: cholesterol, phosphatidylethanolamine, lecithin, and *lyso*-lecithin

**1128** **Sphingolipid Mixture** **25 mg/ml, 1 ml** **103.00**
TLC standards mixture

**Source:** natural, bovine **Appearance:** liquid **Solvent:** chloroform/methanol, 2:1
**Solubility:** chloroform/methanol, 2:1 **Storage:** −20°C

Contains: cerebrosides, sulfatides, and sphingomyelin

**1129** **Non-Polar Lipid Mixture A** **25 mg/ml, 1 ml** **93.00**
TLC standards mixture

**Source:** natural, plant, ovine **Appearance:** liquid **Solvent:** chloroform
**Solubility:** chloroform **Storage:** −20°C

Contains: cholesteryl palmitate, tripalmitin, palmitic acid, and cholesterol

**1130** **Non-Polar Lipid Mixture B** **25 mg/ml, 1 ml** **93.00**
TLC standards mixture

**Source:** natural, plant, ovine **Appearance:** liquid **Solvent:** chloroform
**Solubility:** chloroform **Storage:** −20°C

Contains: cholesteryl oleate, methyl oleate, triolein, oleic acid, and cholesterol

## Glycosphingolipid Reference Mixtures for TLC

These mixtures are qualitative standards prepared from our purified glycosphingolipids.

**1505** **Neutral Glycosphingolipid Mixture** **1 mg/ml, 1 ml** **136.00**
Glycosylceramides, qualitative mixture

**Source:** natural, bovine and porcine **Appearance:** liquid
**Solvent:** chloroform/methanol, 2:1 **Solubility:** chloroform/methanol, 2:1
**Storage:** −20°C

Contains: cerebrosides, lactosylceramides, ceramide trihexosides, globosides

**1508** **Monosialoganglioside Mixture** **0.5 mg/ml, 1 ml** **136.00**

**Source:** natural, bovine, human **Appearance:** liquid
**Solvent:** chloroform/methanol/DI water, 2:1:0.1 **Solubility:** chloroform/methanol/DI water, 2:1:0.1 **Storage:** –20°C

Contains: $GM_3$, $GM_2$, $GM_1$

**1509** **Disialoganglioside Mixture** **0.5 mg/ml, 1 ml** **147.00**

**Source:** natural, bovine **Appearance:** liquid **Solvent:** chloroform/methanol/DI water, 2:1:0.1 **Solubility:** chloroform/methanol/DI water, 2:1:0.1 **Storage:** –20°C

Contains: $GD_3$, $GD_{1a}$, $GD_{1b}$

**1510** **Lactosylceramides and Sialosyl Derivatives Mixture** **0.5 mg/ml, 1 ml** **169.00**

**Source:** natural, bovine **Appearance:** liquid **Solvent:** chloroform/methanol/DI water, 2:1:0.1 **Solubility:** chloroform/methanol/DI water, 2:1:0.1 **Storage:** –20°C

Contains: LC, $GM_3$, $GD_3$

**1511** **Gangliotetraosylceramide and Sialosyl Derivatives Mixture** **0.5 mg/ml, 1 ml** **126.00**

**Source:** natural, bovine **Appearance:** liquid **Solvent:** chloroform/methanol/DI water, 2:1:0.1 **Solubility:** chloroform/methanol/DI water, 2:1:0.1 **Storage:** –20°C

Contains: asialo-$GM_1$, $GM_1$, $GD_{1a}$, $GD_{1b}$, $GT_{1b}$

# Biochemicals and Reagents

## Stable Isotope Labeled Compounds

**1914** **N-Octadecanoyl-$D_{35}$-psychosine, (perdeuterated, C18:0 fatty acid)** **5 mg** **306.00**
N-C18:0-$D_{35}$-Cerebrosides, perdeuterated; N-Stearoyl-$D_{35}$-psychosine, perdeuterated $C_{42}H_{46}D_{35}NO_8$

**Source:** semisynthetic, bovine **Mol. Wt.:** 762 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, hot ethanol, chloroform/methanol, 2:1
**Storage:** –20°C

**1533** **N-Hexadecanoyl-$D_3$-glucopsychosine, deuterated** **1 mg** **290.00**
N-C16:0-$D_3$-Glucopsychosine, deuterated; N-C16:0-$D_3$-Glucocerebroside, deuterated; N-Palmitoyl-$D_3$-glucopsychosine, deuterated $C_{40}H_{74}D_3NO_8$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 703 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

**1534** **N-Hexadecanoyl-$D_3$-lactosylceramide, deuterated** **1 mg** **376.00**
N-C16:0-$D_3$-Lactosylceramide, deuterated; N-Palmitoyl-$D_3$-lactosylceramide, deuterated $C_{46}H_{84}D_3NO_{13}$

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 865 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 5:1:0.1
**Storage:** –20°C

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|---|---|---|---|
| **2200** | **N-1-$^{13}$C-Hexadecanoyl-sphingosylphosphorylcholine**<br>D-*erythro*-Sphingomyelin with 1-$^{13}$C-palmitic acid; N-1-$^{13}$C-Palmitoyl-sphingosylphosphorylcholine $^{12}C_{38}{}^{13}CH_{79}N_2O_6P$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 703 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | **1 mg** | **184.00** |
| **1536** | **N-Octadecanoyl-$D_3$-sulfatide, deuterated**<br>N-C18:0-$D_3$-Sulfatide, deuterated; N-Stearoyl-$D_3$-sulfatide, deuterated $C_{42}H_{78}D_3NO_{11}S$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 833 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1<br>**Storage:** –20°C | **1 mg** | **414.00** |
| **1537** | **N-Octadecanoyl-$D_3$-ceramide trihexoside, deuterated**<br>C18:0-$D_3$-CTH, deuterated; N-C18:0-$D_3$-Gb3, deuterated; N-Octadecanoyl-$D_3$-globotriaosylceramide, deuterated; N-Stearoyl-$D_3$-ceramide trihexoside, deuterated $C_{54}H_{98}D_3NO_{18}$<br><br>**Source:** semisynthetic, porcine **Mol. Wt.:** 1055 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** DMSO, chloroform/methanol, 2:1 **Storage:** –20°C | **0.5 mg** | **348.00** |
| **2050** | **N-*omega*-$CD_3$-Octadecanoyl monosialoganglioside $GM_1$ ($NH_4^+$ salt)**<br>N-$CD_3$-Stearoyl $GM_1$, $C_{73}H_{128}N_3O_{31}D_3 \bullet NH_3$<br><br>**Source:** semisynthetic, bovine **Mol. Wt.:** 1550 + $NH_3$ **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C | **0.5 mg** | **435.00** |
| **2051** | **N-*omega*-$CD_3$-Octadecanoyl monosialoganglioside $GM_2$ ($NH_4^+$ salt)**<br>N-$CD_3$-Stearoyl $GM_2$ $C_{67}H_{118}D_3N_3O_{26}\bullet NH_3$<br><br>**Source:** semisynthetic, human Tay-Sachs **Mol. Wt.:** 1388 + $NH_3$ **Purity:** 98+% by TLC, MS **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water **Storage:** –20°C | **250 µg** | **319.00** |
| **2052** | **N-*omega*-$CD_3$-Octadecanoyl monosialoganglioside $GM_3$ ($NH_4^+$ salt)**<br>N-$CD_3$-Stearoyl $GM_3$ $C_{59}H_{105}D_3N_2O_{21}\bullet NH_3$<br><br>**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 1185 + $NH_3$ **Purity:** 98+% by TLC, MS **Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.2; forms micellar solution in water **Storage:** –20°C | **250 µg** | **290.00** |

## Fluorescent Compounds

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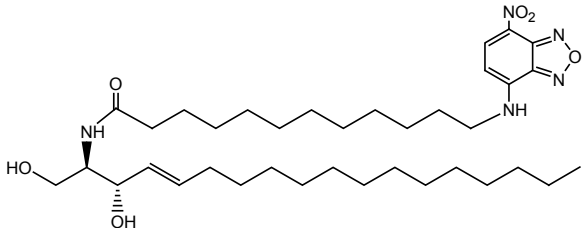
|---|---|---|---|
| **1841** | **N-Hexanoyl-NBD-D-*erythro*-sphingosine** | **100 µg** | **204.00** |
| **1841-001** | N-C6:0-NBD-Ceramide; N-C6:0-NBD-D-*erythro*-Sphingosine $C_{30}H_{49}N_5O_6$<br>**CAS#:** 86701-10-2 | **1 mg** | **302.00** |
| | **Source:** synthetic **Mol. Wt.:** 576 **Melting Point (°C):** 85-88 **Purity:** 98+% by TLC<br>**Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C | | |

Catalog number 1618



Excitation: 460 nm
Emission: 535 nm

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|---|---|---|---|
| **1618** | **N-Dodecanoyl-NBD-D-*erythro*-sphingosine** | **100 µg** | **147.00** |
| **1618-001** | N-C12:0-NBD-Ceramide; N-C12:0-NBD-D-*erythro*-Sphingosine $C_{36}H_{61}N_5O_6$ | **1 mg** | **526.00** |

**Source:** synthetic **Mol. Wt.:** 660 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

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|---|---|---|---|
| **1857** | **N-Hexanoyl-NBD-L-*threo*-sphingosine** | **100 µg** | **162.00** |
| **1857-001** | N-C6:0-NBD-Ceramide; N-C6:0-NBD-L-*threo*-Sphingosine $C_{30}H_{49}N_5O_6$ | **1 mg** | **526.00** |

**Source:** synthetic **Mol. Wt.:** 575 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

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|---|---|---|---|
| **1620** | **N-Dodecanoyl-NBD-L-*threo*-sphingosine** | **100 µg** | **162.00** |
| **1620-001** | N-C12:0-NBD-Ceramide; N-C12:0-NBD-L-*threo*-Sphingosine $C_{36}H_{61}N_5O_6$ | **1 mg** | **526.00** |

**Source:** synthetic **Mol. Wt.:** 660 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

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|---|---|---|---|
| **1624** | **N-Hexanoyl-NBD-L-*threo*-dihydrosphingosine** | **100 µg** | **147.00** |
| **1624-001** | N-C6:0-NBD-Dihydroceramide; N-C6:0-NBD-L-*threo*-Dihydrosphingosine $C_{30}H_{51}N_5O_6$ | **1 mg** | **526.00** |

**Source:** synthetic **Mol. Wt.:** 578 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

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|---|---|---|---|
| **1623** | **N-Dodecanoyl-NBD-L-*threo*-dihydrosphingosine** | **100 µg** | **147.00** |
| **1623-001** | N-C12:0-NBD-Dihydroceramide; N-C12:0-NBD-L-*threo*-Dihydrosphingosine $C_{36}H_{63}N_5O_6$ | **1 mg** | **526.00** |

**Source:** synthetic **Mol. Wt.:** 662 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

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|---|---|---|---|
| **1626** | **N-Hexanoyl-NBD-D-*erythro*-dihydrosphingosine** | **100 µg** | **126.00** |
| **1626-001** | N-C6:0-NBD-Dihydroceramide; N-C6:0-NBD-D-*erythro*-Dihydrosphingosine $C_{30}H_{51}N_5O_6$ | **1 mg** | **526.00** |

**Source:** synthetic **Mol. Wt.:** 578 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

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|---|---|---|---|
| **1625** | **N-Dodecanoyl-NBD-D-*erythro*-dihydrosphingosine** | **100 µg** | **147.00** |
| **1625-001** | N-C12:0-NBD-Dihydroceramide; N-C12:0-NBD-D-*erythro*-Dihydrosphingosine $C_{36}H_{63}N_5O_6$ | **1 mg** | **526.00** |

**Source:** synthetic **Mol. Wt.:** 662 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

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|---|---|---|---|
| **1628** | **N-Hexanoyl-NBD-phytosphingosine** | **100 µg** | **126.00** |
| **1628-001** | N-C6:0-NBD-Phytoceramide; N-C6:0-NBD-Phytosphingosine $C_{30}H_{51}N_5O_7$ | **1 mg** | **526.00** |

**Source:** semisynthetic, bacteria **Mol. Wt.:** 594 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

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|---|---|---|---|
| **1627** | **N-Dodecanoyl-NBD-phytosphingosine** | **100 µg** | **133.00** |
| **1627-001** | N-C12:0-NBD-Phytoceramide; N-C12:0-NBD-Phytosphingosine $C_{36}H_{63}N_5O_7$ | **1 mg** | **526.00** |

**Source:** semisynthetic, bacteria **Mol. Wt.:** 678 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

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|---|---|---|---|
| **1912** | **N-Hexanoyl-NBD-sphingosylphosphorylcholine** | **100 µg** | **111.00** |
| **1912-001** | N-C6:0-NBD-Sphingomyelin; N-C6:0-NBD-Sphingosylphosphorylcholine $C_{35}H_{61}N_6O_9P$ **CAS#:** 94885-04-8 | **1 mg** | **290.00** |

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 740 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, ethanol, methanol **Storage:** –20°C

Mixture of D-erythro and L-threo isomers

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|---|---|---|---|
| **1619** | **N-Dodecanoyl-NBD-sphingosylphosphorylcholine** | **100 µg** | **147.00** |
| **1619-001** | N-C12:0-NBD-Sphingomyelin; N-C12:0-NBD-Sphingosylphosphorylcholine $C_{41}H_{73}N_6O_9P$ | **1 mg** | **319.00** |

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 825 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 2:1 **Storage:** –20°C

Mixture of D-erythro and L-threo isomers

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|---|---|---|---|
| **1621** | **N-Hexanoyl-NBD-galactosylceramide** | **100 µg** | **147.00** |
| **1621-001** | N-C6:0-NBD-*beta*-D-Galactosylsphingosine; N-C6:0-NBD-Cerebrosides $C_{36}H_{59}N_5O_{11}$ | **1 mg** | **526.00** |

**Source:** semisynthetic, bovine **Mol. Wt.:** 738 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 5:1 **Storage:** –20°C

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|---|---|---|---|
| **1633** | **N-Dodecanoyl-NBD-galactosylceramide** | **100 µg** | **118.00** |
| **1633-001** | N-C12:0-NBD-*beta*-D-Galactosylsphingosine; N-C12:0-NBD-Cerebroside $C_{42}H_{71}N_5O_{11}$ | **1 mg** | **526.00** |

**Source:** semisynthetic, bovine spinal cord **Mol. Wt.:** 822 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform, DMSO, chloroform/methanol, 2:1
**Storage:** –20°C

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|---|---|---|---|
| **1622** | **N-Hexanoyl-NBD-glucosylceramide** | **100 µg** | **147.00** |
| **1622-001** | N-C6:0-NBD-*beta*-D-Glucosylsphingosine; N-C6:0-NBD-Glucosylceramide, fluorescent $C_{36}H_{59}N_5O_{11}$ | **1 mg** | **526.00** |

**Source:** semisynthetic, bovine **Mol. Wt.:** 738 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 5:1 **Storage:** –20°C

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|---|---|---|---|
| **1629** | **N-Hexanoyl-NBD-lactosylceramide** | **50 ug** | **184.00** |
| **1629-001** | N-Hexanoyl-NBD-*beta*-D-lactosylsphingosine; N-C6:0-NBD-*beta*-D-Lactosylsphingosine; N-C6:0-NBD-Lactosylceramide $C_{42}H_{69}N_5O_{16}$ | **1 mg** | **824.00** |

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 900 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

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|---|---|---|---|
| **1630** | **N-Dodecanoyl-NBD-lactosylceramide** | **50 µg** | **204.00** |
| **1630-001** | N-Dodecanoyl-NBD-*beta*-D-lactosylsphingosine; N-C12:0-NBD-*beta*-D-Lactosylsphingosine; N-C12:0-NBD-Lactosylceramide $C_{48}H_{81}N_5O_{16}$ | **1 mg** | **793.00** |

**Source:** semisynthetic, bovine buttermilk **Mol. Wt.:** 984 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

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|---|---|---|---|
| **1631** | **N-Dodecanoyl-NBD-ceramide trihexoside** | **100 µg** | **184.00** |
| **1631-001** | N-C12:0-NBD-CTH; N-C12:0-NBD-Globotriaosylceramide $C_{54}H_{91}N_5O_{21}$ | **1 mg** | **793.00** |

**Source:** semisynthetic, porcine **Mol. Wt.:** 1145 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** DMSO; hot methanol, chloroform/methanol, 2:1
**Storage:** –20°C

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|---|---|---|---|
| **1632** | **N-Dodecanoyl-NBD-sulfatide** | **100 µg** | **119.00** |
| **1632-001** | N-C12:0-NBD-Sulfatide; N-Dodecanoyl-NBD-*lyso*-sulfatide; N-Dodecanoyl-NBD-sphingosyl-*beta*-D-galactoside-3-sulfate $C_{42}H_{71}N_5O_{14}S$ | **1 mg** | **526.00** |

**Source:** semisynthetic, bovine **Mol. Wt.:** 901 **Purity:** 98+% by TLC
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1 **Storage:** –20°C

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| | | | |
|---|---|---|---|
| **1634** | ***omega*-N-NBD-D-*erythro*-C14-Sphingosine** | **1 mg** | **522.00** |

*omega*-N-(7-nitrobenzo-2-oxa-1,3-diazol-4-yl)-(2S)-amino-tetradec-(4E)-ene-(1,3R)-diol $C_{20}H_{31}N_5O_5$

**Source:** synthetic **Mol. Wt.:** 422 **Purity:** 98+% by TLC **Appearance:** solid
**Solubility:** methanol, ethanol, chloroform/methanol, 9:1 **Storage:** –20°C

**Table III. Typical Fatty Acid Composition of Natural Lipids Made by Matreya LLC**
**(actual composition may vary according to dietary history and growth condition of the source)**

| | Lecithin (egg) | Phosphatidyl-ethanolamine (egg) | lyso-Lecithin (egg) | Phosphatidylserine (bovine) | Phosphatidylinositol (plant) | Sulfatides (bovine) | Cerebrosides (bovine) | Sphingomyelin (bovine) | Phosphatidic acid (semi-synthetic) | Ceramides (bovine) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Catalog Number** | **#1044** | **#1045** | **#1046** | **#1047** | **#1048** | **#1049** | **#1050** | **#1051** | **#1053** | **#1056** |
| Fatty Acids | | | | | | | | | | |
| C14:0 | | | | | | | | | | |
| C16:0 | 31 | 17 | 72 | 1 | 42 | trace | trace | 4 | 39 | trace |
| C16:1 | | | | | | | | | | |
| C18:0 | 16 | 29 | 24 | 42 | | 5 | 4 | 40 | 12 | 4 |
| C18:1 | 31 | 17 | 3 | 27 | 6 | trace | | | 34 | |
| C18:2 | 16 | 11 | | | 47 | | | | 15 | |
| C18:3 | | | | | 5 | | | | | |
| C20:0 | | | | 1 | | 1 | 1 | 3 | | 1 |
| C20:1 | | | | 4 | | | | | | |
| C20:4 | | 12 | | 4 | | | | | | |
| C21:0 | | | | | | | | | | |
| C22:0 | | | | 1 | | 7 | 4 | 13 | | 4 |
| C22:1 | | | | 1 | | trace | | | | |
| C22:6 | | | | 7 | | | | | | |
| C23:0 | | | | | | | 2 | 2 | | 2 |
| C24:0 | | | | | | 18 | 10 | 9 | | 10 |
| C24:1 | | | | | | 29 | 15 | 22 | | 15 |
| C25:0 | | | | | | 2 | 3 | | | 9 |
| C25:1 | | | | | | 2 | 1 | | | 1 |
| C26:0 | | | | | | 1 | 2 | | | 2 |
| C26:1 | | | | | | 3 | 1 | | | 1 |
| C27:0 | | | | | | 1 | 2 | | | 2 |
| C27:1 | | | | | | | 2 | | | 2 |
| C14:0 2-OH | | | | | | | | | | |
| C16:0 2-OH | | | | | | | | | | |
| C18:0 2-OH | | | | | | 5 | 15 | | | 15 |
| C20:0 2-OH | | | | | | trace | 1 | | | 1 |
| C22:0 2-OH | | | | | | 3 | 6 | | | 6 |
| C23:0 2-OH | | | | | | | 5 | | | 5 |
| C24:0 2-OH | | | | | | 10 | 17 | | | 17 |
| C24:1 2-OH | | | | | | 6 | 6 | | | |
| C25:0 2-OH | | | | | | 2 | 3 | | | 3 |
| C25:1 2-OH | | | | | | | | | | |
| C26:0 2-OH | | | | | | | | | | |
| C26:1 2-OH | | | | | | | | | | |
| C16 cis 9,10 methylene | | | | | | | | | | |
| C18 cis 9,10 methylene | | | | | | | | | | |
| Others | 6 | 14 | 1 | 12 | 0 | 5 | 0 | 7 | 0 | 0 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

## Typical Fatty Acid Composition of Natural Lipids Made by Matreya LLC (continued)

**(actual composition may vary according to dietary history and growth condition of the source)**

| | Glucocerebrosides (Gaucher's spleen) | Monogalactosyl-diglycerides (plant) | Digalactosyl-diglyceride (plant) | Monosialo-ganglioside $GM_1$ | Disialoganglioside $GD_{1a}$ | Trisialogang-lioside $GT_{1b}$ | Gangliotetraosyl-ceramide | Purified mixed gangliosides (bovine) | Cerebrosides Kerasin (bovine) | Ceramide trihexoside (porcine) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Catalog Number** | **#1057** | **#1058** | **#1059** | **#1061** | **#1062** | **#1063** | **#1064** | **#1065** | **#1066** | **#1067** |
| Fatty Acids | | | | | | | | | | |
| C14:0 | | | | | 1 | | trace | trace | | |
| C16:0 | 26 | 23 | 9 | 2 | 1 | 1 | 1 | 1 | trace | 3 |
| C16:1 | | | | | | | | | | |
| C18:0 | 9 | 77 | 91 | 90 | 89 | 87 | 86 | 86 | 5 | 2 |
| C18:1 | | | | | | 1 | 3 | 3 | | 2 |
| C18:2 | | | | | | | | | | |
| C18:3 | | | | | | | | | | |
| C20:0 | 5 | | | 3 | 2 | 4 | 4 | 4 | 1 | 2 |
| C20:1 | | | | | | | | | | |
| C20:4 | | | | | | | | | | |
| C21:0 | | | | | | | | | | |
| C22:0 | 26 | | | 1 | 1 | 1 | 2 | 2 | 9 | 17 |
| C22:1 | | | | | | | | | trace | |
| C22:6 | | | | | | | | | | |
| C23:0 | 5 | | | | | 1 | 1 | 1 | 5 | 1 |
| C24:0 | 22 | | | | | 1 | 1 | 1 | 25 | 29 |
| C24:1 | 6 | | | 1 | | 1 | 2 | 2 | 43 | 5 |
| C25:0 | | | | | | | | | 3 | |
| C25:1 | | | | | | | | | 3 | |
| C26:0 | | | | | | | | | 2 | |
| C26:1 | | | | | | | | | 4 | |
| C27:0 | | | | | | | | | | |
| C27:1 | | | | | | | | | | |
| C14:0 2-OH | | | | | | | | | | |
| C16:0 2-OH | | | | | | | | | | |
| C18:0 2-OH | | | | | | | | | | |
| C20:0 2-OH | | | | | | | | | | |
| C22:0 2-OH | | | | | | | | | | 3 |
| C23:0 2-OH | | | | | | | | | | 1 |
| C24:0 2-OH | | | | | | | | | | 19 |
| C24:1 2-OH | | | | | | | | | | 10 |
| C25:0 2-OH | | | | | | | | | | |
| C25:1 2-OH | | | | | | | | | | |
| C26:0 2-OH | | | | | | | | | | |
| C26:1 2-OH | | | | | | | | | | |
| C16 cis 9,10 methylene | | | | | | | | | | |
| C18 cis 9,10 methylene | | | | | | | | | | |
| Others | 1 | 0 | 0 | 3 | 6 | 3 | 0 | 0 | 0 | 6 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

## Typical Fatty Acid Composition of Natural Lipids Made by Matreya LLC (continued)

**(actual composition may vary according to dietary history and growth condition of the source)**

| | Globosides (porcine) | Lecithin (bovine) | Esterified steryl glucoside | Cerebrosides Phrenosin (bovine) | Phosphatidyl-ethanolamine (plant) | Lecithin (plant) | Ceramides (non-hydroxy) | Ceramides (hydroxy) | Sphingomyelin (porcine RBC) | Sphingomyelin (buttermilk) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Catalog Number** | **#1068** | **#1070** | **#1118** | **#1138** | **#1301** | **#1302** | **#1322** | **#1323** | **#1328** | **#1329** |
| Fatty Acids | | | | | | | | | | |
| C14:0 | | trace | | | | | | | | 1 |
| C16:0 | 2 | 35 | 34 | | 22 | 14 | | | 25 | 14 |
| C16:1 | | 1 | | | | | | | | |
| C18:0 | 2 | 14 | 8 | | 3 | 4 | 11 | | 7 | 3 |
| C18:1 | | 33 | 8 | | 7 | 11 | | | | |
| C18:2 | | | 36 | | 60 | 65 | | | | |
| C18:3 | | | 4 | | 8 | 6 | | | | |
| C20:0 | 2 | | 1 | | | | 2 | | 3 | 1 |
| C20:1 | | | | | | | | | | |
| C20:4 | | | | | | | | | | |
| C21:0 | | | | | | | | | | |
| C22:0 | 20 | | 4 | | | | 10 | | 9 | 26 |
| C22:1 | | | | | | | | | | |
| C22:6 | | | | | | | | | | |
| C23:0 | 2 | | 2 | | | | 6 | | 1 | 30 |
| C24:0 | 33 | | 2 | | | | 24 | | 22 | 21 |
| C24:1 | 5 | | | | | | 31 | | 22 | 3 |
| C25:0 | | | | | | | 3 | | | |
| C25:1 | | | | | | | 3 | | | |
| C26:0 | 2 | | | | | | 2 | | | |
| C26:1 | | | | | | | 3 | | | |
| C27:0 | | | | | | | | | | |
| C27:1 | | | | | | | | | | |
| C14:0 2-OH | | | | | | | | | | |
| C16:0 2-OH | | | | | | | | | | |
| C18:0 2-OH | | | | 36 | | | | 24 | | |
| C20:0 2-OH | | | | 1 | | | | 1 | | |
| C22:0 2-OH | 4 | | | 8 | | | | 8 | | |
| C23:0 2-OH | | | | 6 | | | | 6 | | |
| C24:0 2-OH | 19 | | | 25 | | | | 35 | | |
| C24:1 2-OH | 9 | | | 9 | | | | 17 | | |
| C25:0 2-OH | | | | 4 | | | | 4 | | |
| C25:1 2-OH | | | | 2 | | | | | | |
| C26:0 2-OH | | | | 2 | | | | | | |
| C26:1 2-OH | | | | 2 | | | | 2 | | |
| C16 cis 9,10 methylene | | | | | | | | | | |
| C18 cis 9,10 methylene | | | | | | | | | | |
| Others | 0 | 17 | 1 | 5 | 0 | 0 | 5 | 3 | 11 | 1 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

## Typical Fatty Acid Composition of Natural Lipids Made by Matreya LLC (continued)

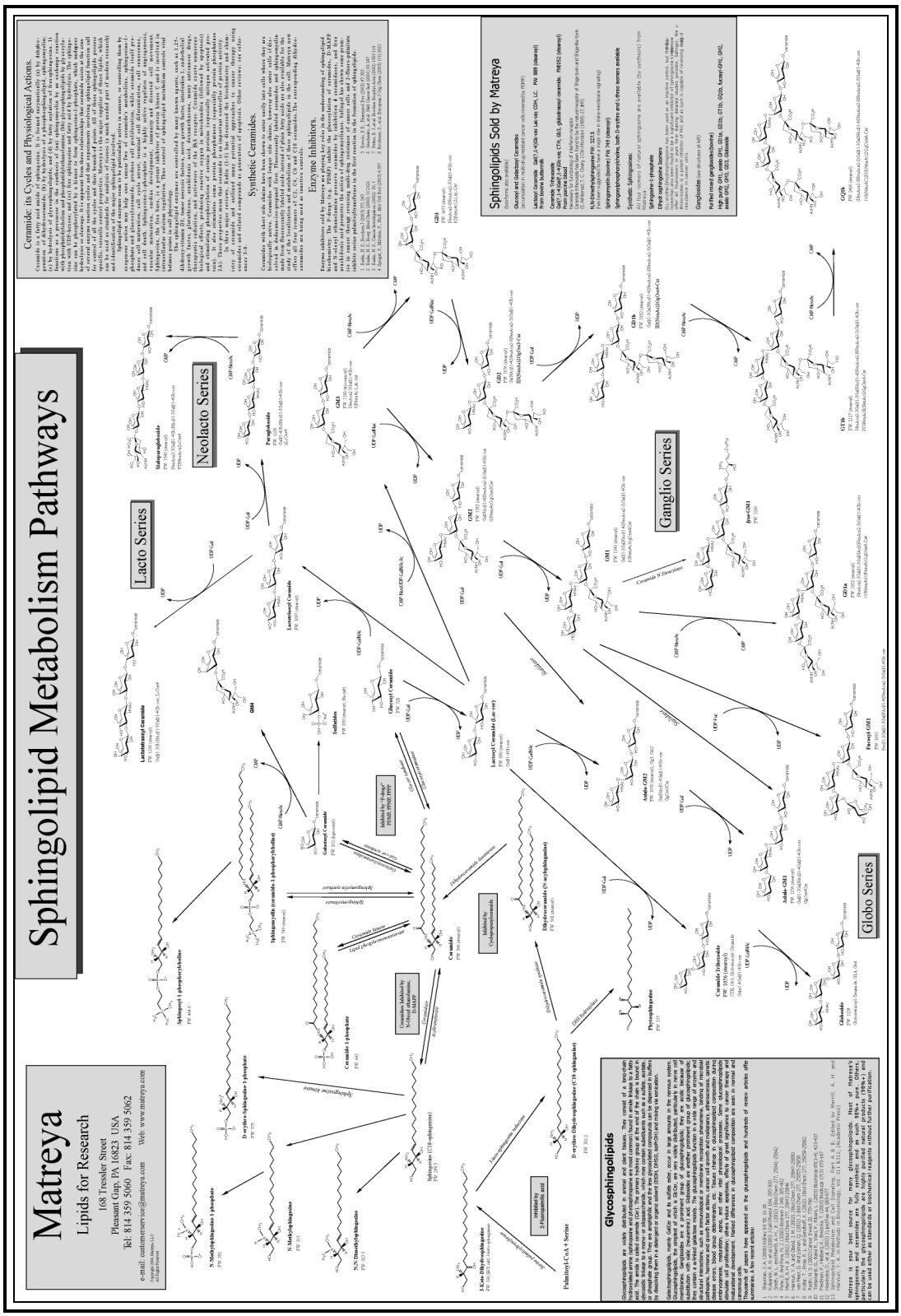
**(actual composition may vary according to dietary history and growth condition of the source)**

| | Sphingomyelin, (egg, chicken) | Phosphatidylinositol | Lactosyl ceramide (porcine) | Disialoganglioside $GD_{1b}$ | Monosialoganglioside GM2 | Monosialoganglioside GM3 (buttermilk) | Disialoganglioside GD3 (buttermilk) | Lactosyl ceramide (buttermilk) | Ceramide trihexosides (top spot) |
|---|---|---|---|---|---|---|---|---|---|
| **Catalog Number** | **#1332** | **#1336** | **#1500** | **#1501** | **#1502** | **#1503** | **#1504** | **#1507** | **#1513** |
| Fatty Acids | | | | | | | | | |
| C14:0 | trace | | | trace | | | | | |
| C16:0 | 72 | 32 | 14 | 1 | 2 | 6 | 8 | 12 | 1 |
| C16:1 | | | | | | | | | |
| C18:0 | 8 | 7 | 6 | 86 | 82 | 1 | 1 | 1 | 1 |
| C18:1 | 3 | 7 | 4 | 3 | | | | | |
| C18:2 | | 47 | | | | | | | |
| C18:3 | | 6 | | | | | | | |
| C20:0 | 2 | | 1 | 4 | 7 | 1 | 1 | 1 | 2 |
| C20:1 | | | | | | | | | |
| C20:4 | | | | | | | | | |
| C21:0 | | | | | | 1 | 2 | | |
| C22:0 | 5 | | 9 | 2 | 4 | 23 | 24 | 25 | 22 |
| C22:1 | | | | | | | | | |
| C22:6 | | | | | | | | | |
| C23:0 | 1 | | 1 | 1 | trace | 36 | 35 | 36 | 2 |
| C24:0 | 2 | | 15 | 1 | 1 | 22 | 21 | 21 | 58 |
| C24:1 | 4 | | 5 | 2 | 2 | 3 | 3 | | 7 |
| C25:0 | | | | | | | | 1 | 1 |
| C25:1 | | | | | | | | | |
| C26:0 | | | | | | | | | 5 |
| C26:1 | | | | | | | | | |
| C27:0 | | | | | | | | | |
| C27:1 | | | | | | | | | |
| C14:0 2-OH | | | | | | | | | |
| C16:0 2-OH | | | | | | | | | |
| C18:0 2-OH | | | trace | | | | | | |
| C20:0 2-OH | | | | | | | | | |
| C22:0 2-OH | | | 8 | | | | | | |
| C23:0 2-OH | | | | | | | | | |
| C24:0 2-OH | | | 24 | | | | | | |
| C24:1 2-OH | | | 13 | | | | | | |
| C25:0 2-OH | | | | | | | | | |
| C25:1 2-OH | | | | | | | | | |
| C26:0 2-OH | | | | | | | | | |
| C26:1 2-OH | | | | | | | | | |
| C16 cis 9,10 methylene | | | | | | | | | |
| C18 cis 9,10 methylene | | | | | | | | | |
| Others | 3 | 1 | 0 | 0 | 2 | 7 | 5 | 3 | 1 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

## Typical Fatty Acid Composition of Natural Lipids Made by Matreya LLC (continued)

**(actual composition may vary according to dietary history and growth condition of the source)**

| | Ceramide trihexosides (bottom spot) | Tetrasialoganglioside $GQ1_b$ | Glucocerebrosides (buttermilk) | Glucocerebrosides (plant) | Mixed Gangliosides, purified (porcine) | Fucosylated monosialoganglioside $GM_1$ | Disialogangliosides $GD_2$ | Monosialoganglioside $GM_4$ |
|---|---|---|---|---|---|---|---|---|
| **Catalog Number** | **#1514** | **#1516** | **#1521** | **#1522** | **#1525** | **#1526** | **#1527** | **#1535** |
| Fatty Acids | | | | | | | | |
| C14:0 | | | | | | | | |
| C16:0 | 3 | 5 | 7 | | 1 | 8 | 1 | 4 |
| C16:1 | | 1 | | | | | | |
| C18:0 | | 80 | 2 | | 87 | 2 | 89 | 2 |
| C18:1 | | 2 | | | | | | |
| C18:2 | | 3 | | | | | | |
| C18:3 | | | | | | | | |
| C20:0 | | 4 | 1 | | 4 | 13 | 7 | trace |
| C20:1 | | | | | | | | trace |
| C20:4 | | | | | | | | |
| C21:0 | | | 1 | | | | | |
| C22:0 | 2 | 2 | 27 | | 1 | 43 | 1 | 3 |
| C22:1 | | | | | | | | 4 |
| C22:6 | | | | | | | | |
| C23:0 | | | 36 | | 1 | 3 | 1 | 4 |
| C24:0 | 3 | | 23 | | 1 | 26 | | 6 |
| C24:1 | | | | | 2 | 5 | 1 | 4 |
| C25:0 | | | 1 | | | | | |
| C25:1 | | | | | | | | |
| C26:0 | | | | | | | | |
| C26:1 | | | | | | | | |
| C27:0 | | | | | | | | |
| C27:1 | | | | | | | | |
| C14:0 2-OH | | | | trace | | | | |
| C16:0 2-OH | | | | 79 | | | | |
| C18:0 2-OH | 1 | | | trace | | | | 1 |
| C20:0 2-OH | 1 | | | | | | | 3 |
| C22:0 2-OH | 11 | | | 8 | | | | 25 |
| C23:0 2-OH | 1 | | | 1 | | | | 17 |
| C24:0 2-OH | 52 | | | 9 | | | | 18 |
| C24:1 2-OH | 25 | | | | | | | 7 |
| C25:0 2-OH | | | | | | | | |
| C25:1 2-OH | | | | | | | | |
| C26:0 2-OH | | | | | | | | |
| C26:1 2-OH | | | | | | | | |
| C16 cis 9,10 methylene | | | | | | | | |
| C18 cis 9,10 methylene | | | | | | | | |
| Others | 1 | 3 | 2 | 3 | 3 | | | 2 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |




## Sphingolipid Structures and Pathways Wall Chart

In a clear and straightforward manner, this wall chart indicates the structures and relationships between most commonly discussed sphingolipids. Full size copies (approximately 35 x 26 inches) are available on request to customer service.

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**Note:** We are pleased and honored to have the above list of scientists in the field of Lipid Research. In case your name and contribution is not listed above, we apologize. If you would like your publication listed in our next catalog, please send your name and publication to the attention of Marketing Department.

## Cross Reference for Product Numbers and Catalog Pages

# Product Name Index

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## F



## G



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## S

## T



## U



## V



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All returns must have prior authorization. Items incorrectly ordered by you and returned to Matreya are subject to a 25% ($25 minimum) restocking charge. The following items may not be returned: frozen products, items which have passed their expiration dates, custom synthesized products and accommodation orders. If a product has been incorrectly sent to you due to an error on our part, a credit will be issued to your account immediately. Please inspect and verify your order upon receipt. No products will be returned after 30 days (assuming proper storage and handling by customer).

- **Disclaimer**

The information and data included in this catalog are correct and reliable to the best of our knowledge. However, we offer no guarantees and assume no responsibility for this information. No license or immunity under any patent is granted or implied through our sale of any material. Any information sent to us by the customer, relative to his or her interest in Matreya's products, must be submitted voluntarily and without obligation on the part of Matreya.

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