

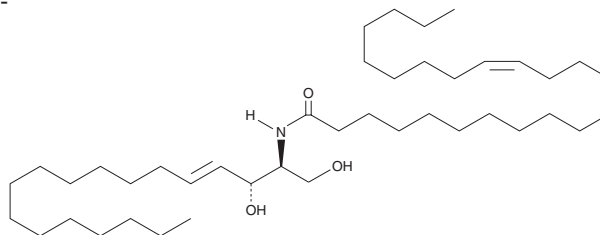
# PRODUCT INFORMATION



## C24:1 Ceramide (d18:1/24:1(15Z))

Item No. 62530

**CAS Registry No.:** 54164-50-0  
**Formal Name:** N-[(1S,2R,3E)-2-hydroxy-1-(hydroxymethyl)-3-heptadecen-1-yl]-15Z-tetracosenamide  
**Synonyms:** Ceramide (d18:1/24:1(15Z)), Cer(d18:1/24:1(15Z)), Nervonic Ceramide, N-Nervonoyl-D-erythro-Sphingosine  
**MF:** C<sub>42</sub>H<sub>81</sub>NO<sub>3</sub>  
**FW:** 648.1  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥1 year



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

C24:1 Ceramide (d18:1/24:1(15Z)) is supplied as a crystalline solid. A stock solution may be made by dissolving the C24:1 ceramide (d18:1/24:1(15Z)) in the solvent of choice. C24:1 Ceramide (d18:1/24:1(15Z)) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of C24:1 ceramide (d18:1/24:1(15Z)) in these solvents is approximately 3 mg/ml, <20 µg/ml and >5.5 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of C24:1 ceramide (d18:1/24:1(15Z)) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of C24:1 ceramide (d18:1/24:1(15Z)) in PBS, pH 7.2, is approximately <20 µg/ml.

C24:1 Ceramide (d18:1/24:1(15Z)) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, C24:1 ceramide (d18:1/24:1(15Z)) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. C24:1 Ceramide (d18:1/24:1(15Z)) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Production of ceramide occurs upon hydrolysis of sphingomyelin by a specific isoform of PLC, appropriately named sphingomyelinase.<sup>1</sup> C24:1 Ceramide (d18:1/24:1(15Z)) is one of the most abundant naturally occurring ceramides.<sup>2-4</sup> Ceramides mediate many diverse biological activities, as has been demonstrated in studies utilizing cell-permeable ceramide analogs. A few of the processes regulated by ceramides include apoptosis, cell differentiation, proliferation of smooth muscle cells, and inhibition of the mitochondrial respiratory chain.<sup>5-7</sup>

### References

1. Perry, D.K., Obeid, L.M., and Hannun, Y.A. *Trends Cardiovasc. Med.* **6**, 158-162 (1996).
2. Gu, Q., Kerwin, J.L., Watts, J.D., et al. *Anal. Biochem.* **244**, 347-356 (1997).
3. Clayton, R.B., Cooper, J.M., Curstedt, T., et al. *J. Lipid Res.* **15**, 557-562 (1974).
4. Krivit, W. and Hammarström, S. *J. Lipid Res.* **13**, 525-530 (1972).
5. Testi, R. *Trends Biochem. Sci.* **21**, 468-471 (1996).
6. Augé, N., Andrieu, N., Nègre-Salvayre, A., et al. *J. Biol. Chem.* **271**, 19251-19255 (1996).
7. Gudz, T.I., Tserng, K.-Y., and Hoppel, C.L. *J. Biol. Chem.* **272**, 24154-24158 (1997).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 03/15/2018

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM