

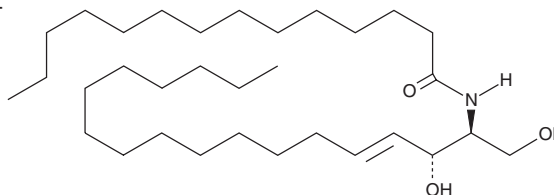
# PRODUCT INFORMATION



## C14 Ceramide (d18:1/14:0)

Item No. 22531

**CAS Registry No.:** 34227-72-0  
**Formal Name:** N-[(1S,2R,3E)-2-hydroxy-1-(hydroxymethyl)-3-heptadecen-1-yl]-tetradecanamide  
**Synonyms:** Cer(d18:1/14:0), C14 Ceramide, Ceramide (d18:1/14:0)  
**MF:** C<sub>32</sub>H<sub>63</sub>NO<sub>3</sub>  
**FW:** 509.9  
**Purity:** ≥95%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

C14 Ceramide (d18:1/14:0) is supplied as a crystalline solid. A stock solution may be made by dissolving the C14 ceramide (d18:1/14:0) in the solvent of choice. C14 Ceramide (d18:1/14:0) is soluble in the organic solvent dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of C14 ceramide (d18:1/14:0) in DMF is approximately 0.15 mg/ml.

### Description

C14 Ceramide is an endogenous ceramide generated by ceramide synthase 6.<sup>1</sup> During nutrient-deprivation-induced necroptosis in MEF cells, C14 ceramide levels increase in a time-dependent manner.<sup>2</sup> C14 ceramide plasma levels were reduced in obese patients with or without diabetes following a 12-week supervised exercise training program, correlating positively with weight and fat loss and negatively with an increase in insulin sensitivity.<sup>3</sup> In contrast, plasma levels were higher in Parkinson's disease patients with dementia than those without dementia and higher levels were correlated with deficits in memory.<sup>4</sup>

### References

1. Grosch, S., Schiffmann, and Geisslinger, G. Chain length-specific properties of ceramides. *Prog. Lipid Res.* **51(1)**, 50-62 (2012).
2. Sundaram, K., Mather, A.R., Marimuthu, S., *et al.* Loss of neutral ceramidase protects cells from nutrient- and energy-deprivation-induced cell death. *Biochem J.* **473(6)**, 43-55 (2016).
3. Kasumov, T., Solomon, T.P., Hwang, C., *et al.* Improved insulin sensitivity after exercise training is linked to reduced plasma C14:0 ceramide in obesity and type 2 diabetes. *Obesity (Silver Spring)* **23(7)**, 1414-1421 (2015).
4. Xing, Y., Tang, Y., Zhao, L., *et al.* Associations between plasma ceramides and cognitive and neuropsychiatric manifestations in Parkinson's disease dementia. *J. Neurol. Sci.* **370**, 82-87 (2016).

#### 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.

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#### 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