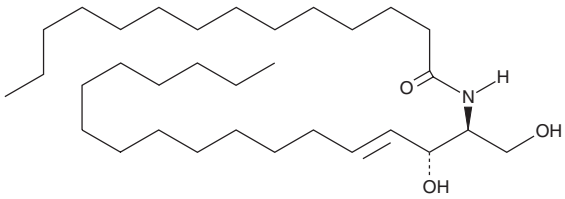
PRODUCT INFORMATION

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:	$C_{32}H_{63}NO_3$
FW:	509.9
Purity:	≥95%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 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.[1] During nutrient-deprivation-induced necroptosis in MEF cells, C14 ceramide levels increase in a time-dependent manner.[2] 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.[3] 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.[4]

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).

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