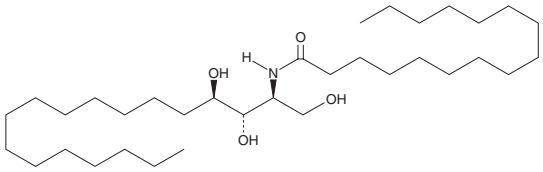
PRODUCT INFORMATION

C16 Phytoceramide (t18:0/16:0)

Item No. 22826

CAS Registry No.: 111149-09-8
Formal Name: *N*-[(1*S*,2*S*,3*R*)-2,3-dihydroxy-1-(hydroxymethyl) heptadecyl]-hexadecanamide
Synonyms: Armillaramide, Ceramide (t18:0/16:0), Cer(t18:0/16:0), C16:0 Phytoceramide, N-hexadecanoyl Phytosphingosine, N-Palmitoyl Phytosphingosine
MF: $C_{34}H_{69}NO_4$
FW: 555.9
Purity: ≥98%
Supplied as: A 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

C16 Phytoceramide (t18:0/16:0) is supplied as a solid. A stock solution may be made by dissolving the C16 phytoceramide (t18:0/16:0) in the solvent of choice. C16 Phytoceramide (t18:0/16:0) is soluble in a 5:1 solution of chloroform:methanol.

Description

C16 Phytoceramide (t18:0/16:0) is a phytoceramide, which is a family of sphingolipids found in the intestine, kidney, and extracellular spaces of the stratum corneum of the mammalian epidermis.[1-3] C16 Phytoceramide (t18:0/16:0) is composed of a phytosphingosine (Item No. 20217) backbone amine-linked to a C16 fatty acid chain. The levels of C16 phytoceramide (t18:0/16:0) increase following heat stress in *S. cerevisiae*.[4] It has been used with other ceramides to create stratum corneum substitutes to study percutaneous penetration and psoriasis *in vitro*.[5,6]

References

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2. Omae, F., Miyazaki, M., Enomoto, A., *et al.* DES2 protein is responsible for phytoceramide biosynthesis in the mouse small intestine. *Biochem J.* **379(Pt. 3)**, 687-695 (2004).
3. Mizutani, Y., Kihara, A., and Igarashi, Y. Identification of the human sphingolipid C4-hydroxylase, hDES2, and its up-regulation during keratinocyte differentiation. *FEBS Lett.* **563(1-3)**, 93-97 (2004).
4. Montefusco, D.J., Chen, L., Matmati, N., *et al.* Distinct signaling roles of ceramide species in yeast revealed through systematic perturbation and systems biology analyses. *Sci. Signal* **6(299)**, rs14 (2013).
5. de Jager, M., Groenink, W., van der Spek, J., *et al.* Preparation and characterization of a stratum corneum substitute for *in vitro* percutaneous penetration studies. *Biochim Biophys. Acta.* **1758(5)**, 636-644 (2006).
6. Basse, L.H., Groen, D., and Bouwstra, J.A. Permeability and lipid organization of a novel psoriasis stratum corneum substitute. *Int. J. Pharm.* **457(1)**, 275-282 (2013).

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