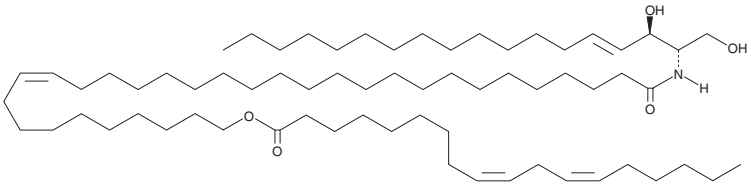
PRODUCT INFORMATION

EOS (d18:1/32:1/18:2)

Item No. 22442

CAS Registry No.: 1318771-31-1
Formal Name: 9Z,12Z-octadecadienoic acid, (10Z)-32-[[(1S,2R,3E)-2-hydroxy-1-(hydroxymethyl)-3-heptadecen-1-yl]amino]-32-oxo-10-dotriaconten-1-yl ester
Synonym: C52:3 EOS (18:1/32:1(22 Z) w18:2(9Z,12Z), Esterified ω-hydroxyacyl Sphingosine
MF: $C_{68}H_{127}NO_5$
FW: 1,038.8
Purity: ≥95%
Supplied as: A solution in dichloromethane
Storage: -20°C
Stability: ≥1 year



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

Laboratory Procedures

EOS (d18:1/32:1/18:2) is supplied as a solution in dichloromethane. To change the solvent, simply evaporate the dichloromethane under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of EOS (d18:1/32:1/18:2) in DMF is approximately 0.15 mg/ml.

Description

EOS is a ceramide found in the outer layer of the epidermis in mammals.[1] It is comprised of an ω-hydroxy very long-chain ceramide (C28-36) esterified to the essential fatty acid linoleic acid (Item No. 90150). The consecutive regio- and stereospecific oxygenation of the linoleate portion of EOS by 12(R)-lipoxygenase (12(R)-LO) and eLOX3 is essential for the maintenance of the epidermal barrier to prevent water loss. Following oxygenation, the oxidized linoleate is hydrolyzed, leaving the ω-hydroxy end of the very long-chain fatty acid to covalently bind the protein layer, forming the corneocyte lipid envelope and sealing the gap between the extracellular lipid lamellae and the cornified cell envelope of the corneocyte.

Reference

1. Zheng, Y., Yun, H., Boeglin, W.E., *et al.* Lipoxygenases mediate the effect of essential fatty acid in skin barrier formation: A proposed role in releasing ω-hydroxyceramide for construction of the corneocyte lipid envelope. *J. Biol. Chem.* **286(27),** 24046-24056 (2011).

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