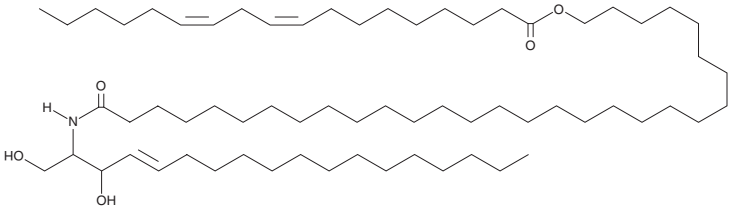
PRODUCT INFORMATION

EOS (d18:1/30:0/18:2)

Item No. 24394

CAS Registry No.: 97040-38-5
Formal Name: 30-[[2-hydroxy-1-(hydroxymethyl)-3-heptadecen-1-yl]amino]-30-oxotriacontyl ester, 9,12-octadecadienoic acid
Synonyms: N-(30-linoleoyloxy-triacontanoyl)-Sphingosine, C48:2 EOS (d18:1/30:0w18:2 (9Z,12Z))
MF: $C_{66}H_{125}NO_5$
FW: 1,012.7
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

EOS (d18:1/30:0/18:2) is supplied as a solid. A stock solution may be made by dissolving the EOS (d18:1/30:0/18:2) in the solvent of choice, which should be purged with an inert gas. EOS (d18:1/30:0/18:2) is soluble in chloroform, methanol, and dimethyl formamide.

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. EOS (d18:1/30:0/18:2) is a sphingolipid that has been found in intact and desquamated human stratum corneum as well as porcine epidermis.[2,3]

References

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 omega-hydroxyceramide for construction of the corneocyte lipid envelope. *J. Biol. Chem.* **286(27)**, 24046-24056 (2011).
2. Long, S.A., Wertz, P.W., Strauss, J.S., *et al.* Human stratum corneum polar lipids and desquamation. *Arch. Dermatol. Res.* **277(4)**, 284-287 (1985).
3. Wertz, P.W., Abraham, W., Cho, E.S., *et al.* Linoleate-rich O-acylsphingolipids of mammalian epidermis: Structures and effects of essential fatty acid deficiency. *Prog. Lipid Res.* **25**, 383-389 (1986).

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