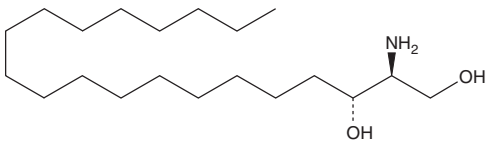
PRODUCT INFORMATION

Sphinganine (d20:0)

Item No. 22509

CAS Registry No.:	24006-62-0
Formal Name:	2S-amino-1,3R-eicosanediol
Synonyms:	D-*erythro*-C20-Dihydrosphingosine, Eicosasphinganine, D-*erythro*-Sphinganine C20
MF:	$C_{20}H_{43}NO_2$
FW:	329.6
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

Sphinganine (d20:0) is supplied as a solid. A stock solution may be made by dissolving the Sphinganine (d20:0) in the solvent of choice. Sphinganine (d20:0) is soluble in a 5:1 solution of chloroform:methanol. Sphinganine (d20:0) is also soluble in ethanol (warm).

Description

Sphinganine (d20:0) is a natural isomer of dihydro-D-*erythro*-sphinganine (sphinganine (d18:0); Item No. 10007945) that is a precursor of ceramide and sphingosine as well as a substrate for sphingosine kinases, which generate sphingosine-1-phosphate (d18:1) (Item No. 62570). In *S. cerevisiae*, the amount of sphinganine (d20:0) increases 10.8-fold in response to heat stress, indicating it is involved in heat stress adaptation.[1] Sphinganine levels increase significantly in response to certain mycotoxins, including fumonisins as well as in some cancers.[2-4] Sphinganine can block protein kinase C activation in some cases but not others.[5,6]

References

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2. Yin, J., Miyazaki, K., Shaner, R.L., *et al*. Altered sphingolipid metabolism induced by tumor hypoxia - new vistas in glycolipid tumor markers. *FEBS Lett.* **584(9)**, 1872-1878 (2010).
3. Pruett, S.T., Bushnev, A., Hagedorn, K., *et al*. Biodiversity of sphingoid bases (“sphingosines”) and related amino alcohols. *J. Lipid Res*. **49**, 1621-1639 (2008).
4. Shephard, G.S., van der Westhuizen, L., and Sewram, V. Biomarkers of exposure to fumonisin mycotoxins: A review. *Food Addit. Contam.* **24(10)**, 1196-1201 (2007).
5. Merrill, A.H., Jr., Sereni, A.M., Stevens, V.L., *et al*. Inhibition of phorbol ester-dependent differentiation of human promyelocytic leukemic (HL-60) cells by sphinganine and other long-chain bases. *J. Biol. Chem*. **261(27)**, 12610-12615 (1986).
6. Merrill, A.H., Jr., Nimkar, S., Menaldino, D., *et al*. Structural requirements for long-chain (shingoid) base inhibition of protein kinase C *in vitro* and for the cellular effects of these compounds. *Biochemistry* **28**, 3138-3145 (1989).

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