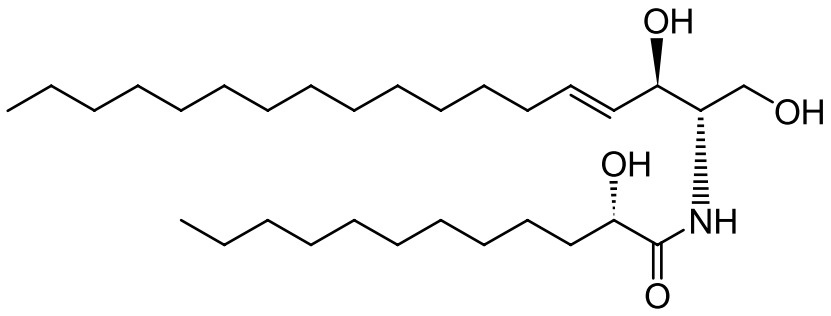
Technical Data Sheet

N-(2'-(S)-hydroxylauroyl)-D-*erythro*-sphingosine

Catalog Number	860812	**Physical state**	Powder
Purity	> 99%	**Transition temp.**	No data
CAS		**CMC**	No data
Synonyms	12:0(2S-OH) Ceramide	**pK_a**	No data
Molec. Formula	$C_{30}H_{59}NO_4$	**TLC mobile phase**	C:M*, 9:1, v/v
MW	497.794	**Exact Mass**	497.444
Percent composition	C 72.38% H 11.95% N 2.81% O 12.86%		
Stability	Store in <-20°C freezer for up to one year		
Solubility	Soluble in DMSO, Methanol, Ethanol:Water (95:5) at 40°C + Sonication . Note: solidifies at room temperature in all solvents (i.e. keep warm with sonication). All soluble in C:M:W*, 80:20:2 to 65:25:4, v/v		
Web link	860812		

*C, chloroform; M, methanol; W, water



Description:

Ceramides containing 2-hydroxy fatty acids (hFA) are found primarily in the nervous system, epidermis and kidney, as well as various other organs and tumors. These hFA-sphingolipids play a role in cell adhesion, signaling and membrane trafficking (Alderson and Hama, 2009). Synthesis of hFA-ceramides requires fatty acid 2-hydroxylase (FA2H). Mutations of this key enzyme are associated with the nervous system disorders leukodystrophy and spastic paraparesis in humans (Hama 2010). hFA-sphingolipids in the epidermis are required for the permeability barrier the epidermis provides. hFA-sphingolipids are involved in stabilizing these specialized cell membranes and regulating the cell cycle (Alderson and Hama, 2009). The mechanism of action for an antitumor drug involves hFA-ceramides in the cell membrane (Herrero *et al*, 2008).

References:

• Hama H (2010) Fatty acid 2-Hydroxylation in mammalian sphingolipid biology. Biochim Biophys Acta. 1801:405-14
• Alderson NL, Hama H (2009) Fatty acid 2-hydroxylase regulates cAMP-induced cell cycle exit in D6P2T schwannoma cells. J Lipid Res. 50:1203-8
• Herrero AB, Astudillo AM, Balboa MA, Cuevas C, Balsinde J, Moreno S (2008) Levels of SCS7/FA2H-mediated fatty acid 2-hydroxylation determine the sensitivity of cells to antitumor PM02734. Cancer Res. 68:9779-87

Related products: Sphingolipids

MSDS: Available at www.avantilipids.com for Product Number 860812

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