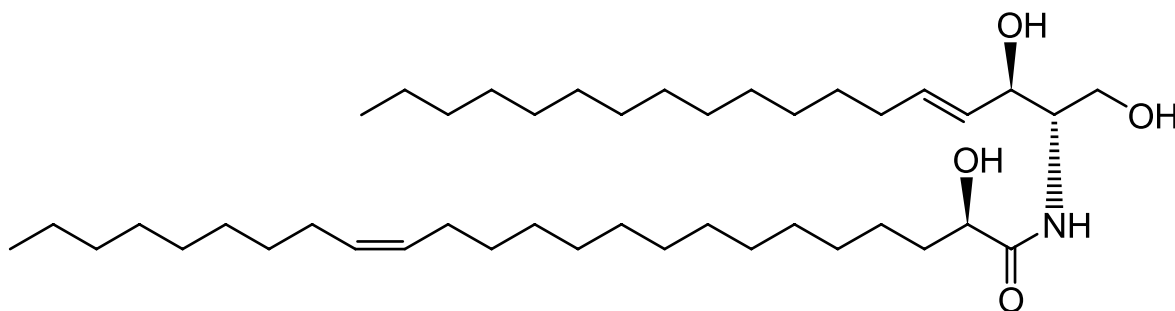


TECHNICAL DATA SHEET

N-(2'-(R)-hydroxynervonoyl)-D-erythro-sphingosine

Catalog Number	860825	Physical state	Powder
Purity	> 99%	Transition temp.	No data
CAS		CMC	No data
Synonyms	24:1(2R-OH) Ceramide	pK _a	No data
Molec. Formula	C ₄₂ H ₈₁ NO ₄	TLC mobile phase	C:M*, 9:1, v/v
MW	664.097	Exact Mass	663.617
Percent composition	C 75.96% H 12.29% N 2.11% O 9.64%		
Stability	Store in <-20°C freezer for up to six months		
Solubility	Soluble in DMSO at 40°C + Sonication. Soluble in Methanol and Ethanol:Water (95:5) at 40°C. Note: solidifies at room temperature in DMSO (i.e. keep warm with sonication). All soluble in C:M:W*, 80:20:2 to 65:25:4, v/v		
Web link	860825		

*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 860825

