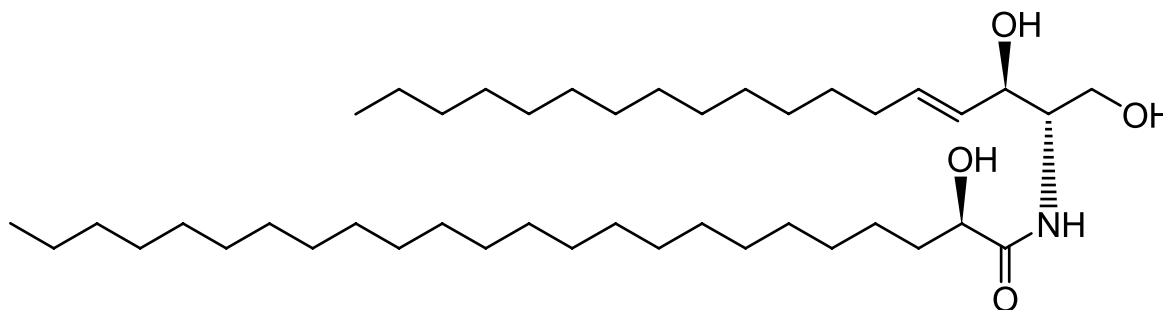


TECHNICAL DATA SHEET

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

| | | | |
|---------------------|---|------------------|----------------|
| Catalog Number | 860823 | Physical state | Powder |
| Purity | > 99% | Transition temp. | No data |
| CAS | | CMC | No data |
| Synonyms | 24:0(2R-OH) Ceramide | pK _a | No data |
| Molec. Formula | C ₄₂ H ₈₃ NO ₄ | TLC mobile phase | C:M*, 9:1, v/v |
| MW | 666.113 | Exact Mass | 665.632 |
| Percent composition | C 75.73% H 12.56% N 2.10% O 9.61% | | |
| Stability | Store in <-20°C freezer for up to one year | | |
| Solubility | Insoluble in DMSO, Ethanol:Water (95:5), Ethanol:Water (1:1). Soluble in Methanol at 40°C + Sonication. Note: solidifies at room temperature in Methanol (i.e. keep warm with sonication). All soluble in C:M:W*, 80:20:2 to 65:25:4, v/v | | |
| Web link | 860823 | | |

*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 860823