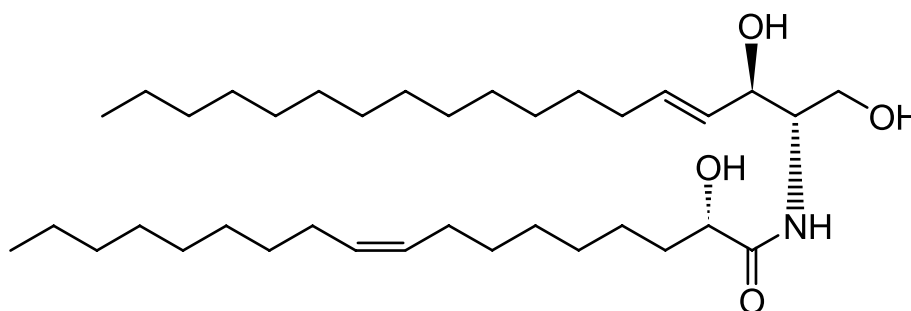


# TECHNICAL DATA SHEET

## N-(2'-(S)-hydroxyoleoyl)-D-erythro-sphingosine

|                     |                                                                                                                                           |                  |                |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------|
| Catalog Number      | 860828                                                                                                                                    | Physical state   | Powder         |
| Purity              | > 99%                                                                                                                                     | Transition temp. | No data        |
| CAS                 |                                                                                                                                           | CMC              | No data        |
| Synonyms            | 18:1(2S-OH) Ceramide                                                                                                                      | pK <sub>a</sub>  | No data        |
| Molec. Formula      | C <sub>36</sub> H <sub>69</sub> NO <sub>4</sub>                                                                                           | TLC mobile phase | C:M*, 9:1, v/v |
| MW                  | 579.937                                                                                                                                   | Exact Mass       | 579.523        |
| Percent composition | C 74.56% H 11.99% N 2.42% O 11.04%                                                                                                        |                  |                |
| Stability           | Store in <-20°C freezer for up to six months                                                                                              |                  |                |
| Solubility          | Soluble in DMSO at 40°C. Soluble in Methanol and Ethanol:Water (95:5) at room temperature. All soluble in C:M:W*, 80:20:2 to 65:25:4, v/v |                  |                |
| Web link            | <a href="#">860828</a>                                                                                                                    |                  |                |

\*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](http://www.avantilipids.com) for Product Number 860828

