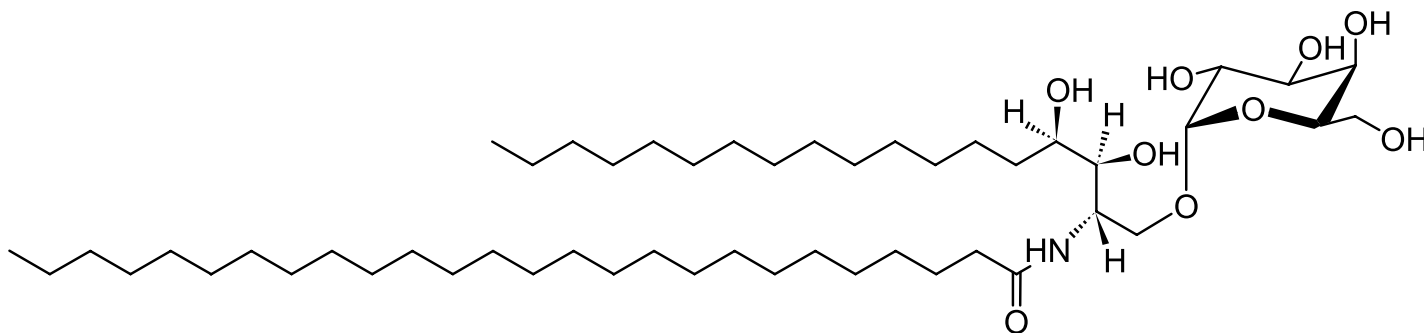


# TECHNICAL DATA SHEET

## $\alpha$ -Galactosyl Ceramide

|                            |  |                         |                  |
|----------------------------|--|-------------------------|------------------|
| <b>Catalog Number</b>      | 867000   | <b>Physical state</b>   | Powder           |
| <b>Purity</b>              | > 95%; Supplier: Funakoshi Co. Ltd.  | <b>Transition temp.</b> | No data          |
| <b>CAS</b>                 | 158021-47-7  | <b>CMC</b>              | No data          |
| <b>Synonyms</b>            | $\alpha$ GalCer; KRN7000; (2S,3S,4R)-1-O-(D-galactosyl)-N-hexacosanoyl-2-amino-1,3,4-octadecanetriol   | <b>pK<sub>a</sub></b>   | No data          |
| <b>Molec. Formula</b>      | C <sub>50</sub> H <sub>99</sub> NO <sub>9</sub>  | <b>TLC mobile phase</b> | C:M*, 85:15, v/v |
| <b>MW</b>                  | 858.322  | <b>Exact Mass</b>       | 857.732          |
| <b>Percent composition</b> | C 69.97% H 11.63% N 1.63% O 16.78%   |                         |                  |
| <b>Stability</b>           | Store in <-20°C freezer for up to one year   |                         |                  |
| <b>Solubility</b>          | Soluble in DMSO at 60-80°C + Sonication. Note: solidifies at room temperature in DMSO (i.e. keep warm with sonication). Concentration should be 1 mg/mL and can be diluted in PBS. For in vivo assays, dissolve in 5.6% sucrose, 0.75% L-histidine and 0.5% Tween20 at 60-80°C + Sonication. Insoluble in water, ethanol, or methanol. |                         |                  |
| <b>Web link</b>            | <a href="#">867000</a>   |                         |                  |

\*C, Chloroform, M, Methanol



### Description:

Agelasphins extracted from the marine sponge *Agelas mauritianus* were found to have antitumor activity. One agelasphin analog, KRN7000, is a synthetic analog of  $\alpha$ -galactosylceramide (Park *et al*, 2008). KRN7000 is a specific ligand for the MHC class I-like protein CD1d (Yu *et al*, 2007) which binds to human and mouse NKT cells. This action of KRN7000 stimulates the secretion of IFN-gamma and TNF-alpha cells which protects against LPS-induced shock (Sireci *et al*, 2008). KRN7000 also functions in other proinflammatory and immunoregulatory functions (Yu *et al*, 2007). Recent monoclonal antibodies against KRN7000 have been developed (*et al*, 2007) to elucidate further the role KRN7000 plays in these T-lymphocytes. KRN7000 is currently in multiple clinical trials for its antimetastatic effects.

### References:

- Sireci, G *et al* (2008) Prophylaxis of lipopolysaccharide-induced shock by alpha-galactosylceramide. *J Leukoc Biol.* 84(2):550-60.
- Park, JJ *et al* (2008) Synthesis of all stereoisomers of KRN7000, the CD1d-binding NKT cell ligand. *Bioorg Med Chem Lett.* 18(14): 3906–3909.
- Yu, KO *et al* (2007) Production and characterization of monoclonal antibodies against complexes of the NKT cell ligand alpha-galactosylceramide bound to mouse CD1d. *Immunol Methods.* 323(1):11-23.
- Fuji, N *et al* (2000) Antitumor effect of  $\alpha$ -galactosylceramide (KRN7000) on spontaneous hepatic metastases requires endogenous interleukin 12 in the liver. *Clin Cancer Res.* 6: 3380–3387.

### Related products: **Spingolipids**

**MSDS:** Available at [www.avantilipids.com](http://www.avantilipids.com) for Product Number 867000