

# PRODUCT DATA SHEET

## Fucosylated monosialogangside GM<sub>1</sub> (NH<sub>4</sub><sup>+</sup> salt), porcine

**Catalog No:** 1526

**Common Name:** Fucosyl -GM<sub>1</sub>

**Source:** natural, porcine

**Solubility:** chloroform/methanol/DI water (2:1:0.1);  
forms micellar solution in water

**CAS No:** 71812-11-8

**Molecular Formula:** C<sub>79</sub>H<sub>141</sub>N<sub>3</sub>O<sub>35</sub> • NH<sub>3</sub>  
(stearoyl; d18:1 sphingoid base)

**Molecular Weight:** 1693 + NH<sub>3</sub>

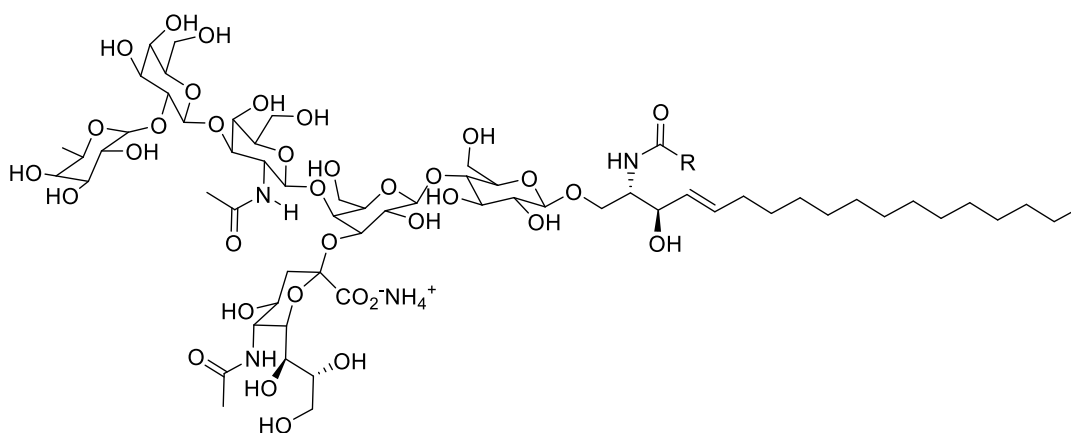
(stearoyl; d18:1 sphingoid base)

**Storage:** -20°C

**Purity:** TLC > 98%; identity confirmed by MS

**TLC System:** chloroform/methanol/2.5N ammonium  
hydroxide (60:40:9 by vol.)

**Appearance:** solid



### Application Notes:

As this product is derived from a natural source, there may be variations in the sphingoid backbone.

Gangliosides<sup>1</sup> are acidic glycosphingolipids that form lipid rafts in the outer leaflet of the cell plasma membrane, especially in neuronal cells in the central nervous system.<sup>2</sup> They participate in cellular proliferation, differentiation, adhesion, signal transduction, cell-to-cell interactions, tumorigenesis, and metastasis. Fucosyl-GM<sub>1</sub> is a tumor associated ganglioside and is an antigen expressed in small cell lung cancer that is being investigated as a target for vaccines against cancer cells.<sup>3</sup> It has been found that Fucosyl-GM<sub>1</sub> demonstrates some of the same binding properties as the similar GM<sub>1</sub> ganglioside such as affinity for cholera toxin B subunit and interaction with amyloid-*beta* protein.<sup>4</sup>

### Selected References:

1. L. Svennerholm, et al. (eds.), *Structure and Function of Gangliosides*, New York, Plenum, 1980
2. T. Kolter, R. Proia, K. Sandhoff, Combinatorial Ganglioside Biosynthesis. *J. Biol. Chem.*, July Vol. 277, No. 29, pp. 25859-25862, 2002
3. G. Ragupathi et al. "Immunization of mice with fucosyl-GM1 conjugated with keyhole limpet hemocyanin results in antibodies against human small-cell lung cancer cells" *Cancer Immunology, Immunotherapy*, Vol. 48 pp. 483-492, 1999
4. M. Yanagisawa, T. Ariga, R. Yu "Fucosyl-GM1 expression and amyloid-*beta* protein accumulation in PC12 cells" *Journal of Neuroscience Research*, Vol. 84 pp. 1343-1349, 2006

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