

PRODUCT DATA SHEET

Fucosylated monosialoganglioside GM₁ (NH₄⁺ salt)

Catalog No: 1526

Common Name: Fucosyl GM₁

Source: natural, porcine

Solubility: chloroform/methanol/DI water,
2:1:0.1; forms micellar solution in
water

CAS No: 71812-11-8

Molecular Formula: C₇₉H₁₄₁N₃O₃₅•NH₃

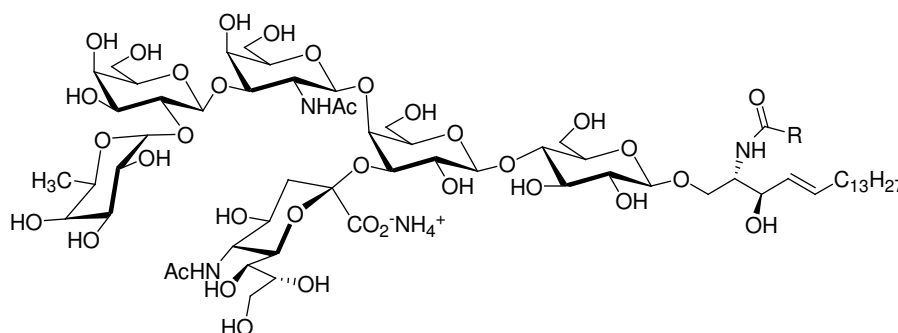
Molecular Weight: 1693+ NH₃ (stearoyl)

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:

Gangliosides¹ 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.² They participate in cellular proliferation, differentiation, adhesion, signal transduction, cell-to-cell interactions, tumorigenesis, and metastasis. Fucosyl-GM₁ 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.³ It has been found that Fucosyl-GM₁ demonstrates some of the same binding properties as the similar GM₁ ganglioside such as affinity for cholera toxin B subunit and interaction with amyloid-*beta* protein.⁴

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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