

PRODUCT DATA SHEET

N-Hexadecanoyl-monosialoganglioside GM₁ (NH₄⁺ salt)

Catalog number: 1568

Synonyms: N-Palmitoyl GM₁, N-C16:0 GM₁

Source: semisynthetic, bovine brain

Solubility: chloroform/methanol/DI water,
2:1:0.1

CAS number: N/A

Molecular Formula: C₇₁H₁₂₇N₃O₃₁•NH₃

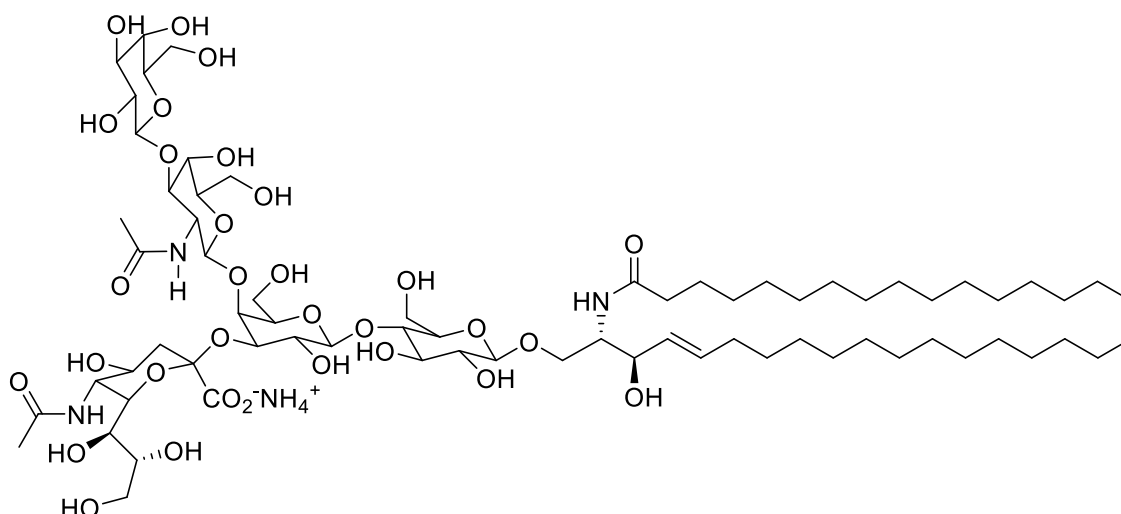
Molecular Weight: 1519+NH₃

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.³ The accumulation of gangliosides has been linked to several diseases including Tay-Sachs and Sandhoff disease while an autoimmune response against gangliosides can lead to Guillain-Barre syndrome. GM1 stimulates neuronal sprouting and enhances the action of nerve growth factor (NGF) by directly and tightly associating with Trk, the high-affinity tyrosine kinase-type receptor for NGF. It is the specific cell surface receptor for cholera toxin.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., 277(29), 25859-25862, 2002
3. S. Birkle, G. Zeng, L. Gao, R. K. Yu, and J. Aubry. Role of tumor-associated gangliosides in cancer progression. Biochimie, 85, 455-463, 2003
4. C. E. Miller, J. Majewski, R. Faller, S. Satija, and T. L. Kuhl, Cholera Toxin Assault on Lipid Monolayers Containing Ganglioside GM1. Biophys. J., 86(6), 3700-3708, 2004

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