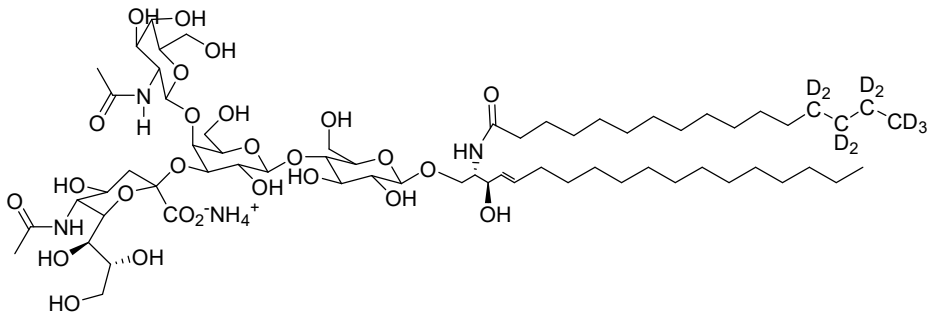
PRODUCT DATA SHEET

MATREYA LLC
Lipids and Biochemicals
A Cayman Chemical Company

N-Hexadecanoyl-D_9 (13,13,14,14,15,15,16,16,16)-monosialoganglioside GM_2 (NH_4^+ salt)

Catalog number: 2058
Synonyms: GM_2-D9; N-CD9-Palmitoyl-GM_2
Source: semisynthetic, bovine
Solubility: chloroform/methanol/DI water, 2:1:0.2; forms micellar solution in water
CAS number: N/A
Molecular Formula: $C_{65}H_{108}D_9N_3O_{26}\bullet NH_3$

Molecular Weight: 1366 + NH_3
Storage: -20°C
Purity: TLC: >98%; identity confirmed by MS
TLC System: chloroform/methanol/ 2.5N aqueous ammonium hydroxide, (60:40:9 by vol.)
Appearance: solid



Application Notes:

Gangliosides[1] 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. An autoimmune response against gangliosides can lead to Guillain-Barre syndrome. GM_1 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*., July Vol. 277, No. 29, pp. 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 GM_1. B*iophysj*., June Vol. 86(6), 3700–3708, *2004*

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