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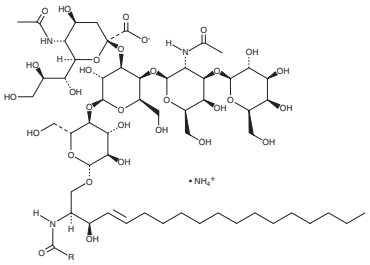
PRODUCT INFORMATION

Ganglioside G_{M1} Mixture (porcine brain) (ammonium salt)

Item No. 31551



CAS Registry No.: 1007119-81-4
Synonyms: G_{M1} Mixture, Monosialoganglioside G_{M1} Mixture
MF: $C_{73}H_{130}N_3O_{31} \bullet NH_4$ (for stearoyl)
FW: 1,563.9
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Ganglioside G_{M1} mixture (porcine brain) (ammonium salt) is supplied as a solid. A stock solution may be made by dissolving the ganglioside G_{M1} mixture (porcine brain) (ammonium salt) in the solvent of choice, which should be purged with an inert gas. Ganglioside G_{M1} mixture (porcine brain) (ammonium salt) is soluble in a chloroform:methanol:water solution of 2:1:0.1.

Description

Ganglioside G_{M1} is a monosialylated ganglioside and the prototypic ganglioside for those containing one sialic acid residue.[1,2] It is found in a large variety of cells, including immune cells and neurons, and is enriched in lipid rafts in the cell membrane.[3] It associates with growth factor receptors, including TrkA, TrkB, and the GDNF receptor complex containing Ret and GFRα, and is required for TrkA expression on the cell surface. Ganglioside G_{M1} interacts with other proteins to increase calcium influx, affecting various calcium-dependent processes, including inducing neuronal outgrowth during differentiation. Ganglioside G_{M1} acts as a receptor for cholera toxin, which binds to its oligosaccharide group, facilitating toxin cell entry into epithelial cells of the jejunum.[4,5] Similarly, it is bound by the heat-labile enterotoxin from *E. coli* in the pathogenesis of traveler's diarrhea.[6] Ganglioside G_{M1} sensitizes inactivated T cells to TNF-α-induced apoptosis and induces apoptosis of activated T cells even in the absence of TNF-α.[7] Ganglioside G_{M1} is found at higher levels on T cells isolated from patients with renal cell carcinoma (RCC) compared with T cells from patients without cancer. Levels of ganglioside G_{M1} are decreased in the substantia nigra pars compacta in postmortem brain from patients with Parkinson's disease.[3] Ganglioside G_{M1} gangliosidosis, characterized by a deficiency in G_{M1}-β-galactosidase, the enzyme that degrades ganglioside G_{M1}, leads to accumulation of the gangliosides G_{M1} and G_{A1} in neurons and can be fatal in infants.[1] Ganglioside G_{M1} mixture contains ganglioside G_{M1} molecular species isolated from porcine brain with primarily C18:0 fatty acyl chain lengths, as well as a lower amount of C20:0 fatty acyl chain lengths, among various others.

References

1. Kolter, T. Ganglioside biochemistry. *ISRN Biochem.* 506160 (2012).
2. Mocchetti, I. *Cell Mol. Life Sci.* **62(19-20)**, 2283-2294 (2005).
3. Ledeen, R.W. and Wu, G. *Trends Biochem. Sci.* **40(7)**, 407-418 (2015).
4. Turnbull, W.B., Precious, B.L., and Homans, S.W. *J. Am. Chem. Soc.* **126(4)**, 1047-1054 (2004).
5. Blank, N., Schiller, M., Krienke, S., *et al. Immunol. Cell Biol.* **85(5)**, 378-382 (2007).
6. Minke, W.E., Roach, C., Hol, W.G., *et al. Biochemistry* **38(18)**, 5684-5692 (1999).
7. Das, T., Sa, G., Hilston, C., *et al. Cancer Res.* **68(6)**, 2014-2023 (2008).

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