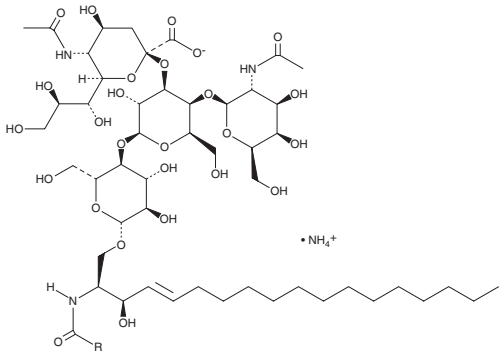
PRODUCT INFORMATION

Ganglioside G_{M2} Mixture (bovine brain) (ammonium salt)

Item No. 31710



CAS Registry No.: 19600-01-2
Synonyms: G_{M2} Mixture, Monosialoganglioside G_{M2} Mixture
MF: $C_{67}H_{120}N_3O_{26} \bullet NH_4$ (for stearoyl)
FW: 1,401.7
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Special Conditions: Forms a micellar solution in water

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

Laboratory Procedures

Ganglioside G_{M2} mixture (bovine brain) (ammonium salt) is supplied as a solid. A stock solution may be made by dissolving the ganglioside G_{M2} mixture (bovine brain) (ammonium salt) in the solvent of choice, which should be purged with an inert gas. Ganglioside G_{M2} mixture (bovine brain) (ammonium salt) is soluble in a 2:1:0.1 solution of chloroform:methanol: DI water. We do not recommend storing the aqueous solution for more than one day.

Description

Ganglioside G_{M2} is a glycosphingolipid component of cellular membranes, primarily the plasma membrane.[1] Gangliosides isolated from apoptogenic glioblastoma multiforme (GBM) cells are enriched in ganglioside G_{M2} compared with nonapoptogenic GBM cells, and ganglioside G_{M2} induces activated T cell death when used at a concentration of 150 µg/ml *in vitro*.[2] Serum ganglioside GM2 levels are increased in patients with breast cancer or cholangiocarcinoma.[3,4] Levels of ganglioside G_{M2} are elevated in the brain of patients with Sandhoff disease, as well as feline and mouse models of the disease.[5] Ganglioside G_{M2} accumulates in the lysosomes of individuals with Tay-Sachs disease and G_{M2}-activator deficiency, as well as in the CNS of patients with and animal models of mucopolysaccharide storage disorders and Niemann-Pick disease types A, C1, and C2.[5,6] This product contains ganglioside GM2 molecular species with primarily C18:0 fatty acyl chain lengths. *As this product is derived from a natural source, there may be variations in the sphingoid backbone*.

References

1. Bisel, B., Pavone, F.S., and Calamai, M. GM1 and GM2 gangliosides: Recent developments. *Biomol. Concepts* **5(1)**, 87-93 (2014).
2. Chahlavi, A., Rayman, P., Richmond, A.L., *et al.* Glioblastomas induce T-lymphocyte death by two distinct pathways involving gangliosides and CD70. *Cancer Res.* **65(12)**, 5428-5438 (2005).
3. Li, Q., Sun, M., Yu, M., *et al.* Gangliosides profiling in serum of breast cancer patient: GM3 as a potential diagnostic biomarker. *Glycoconj. J.* **36(5)**, 419-428 (2019).
4. Talabnin, K., Talabnin, C., Kumagai, T., *et al.* Ganglioside GM2: A potential biomarker for cholangiocarcinoma. *J. Int. Med. Res.* **48(7)**, 1-10 (2020).
5. Baek, R.C., Martin, D.R., Cox, N.R., et al. Comparative analysis of brain lipids in mice, cats, and humans with Sandhoff disease. Lipids **44(3)**, 197-205 (2009).
6. Walkley, S.U. Secondary accumulation of gangliosides in lysosomal storage disorders. *Semin. Cell Dev. Biol.* **15(4)**, 433-444 (2004).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM