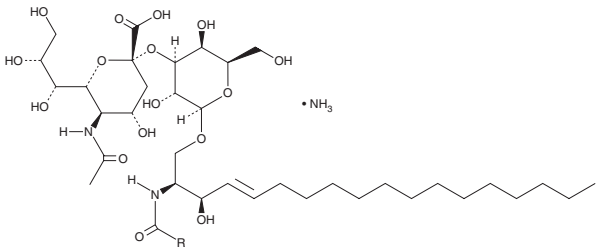
PRODUCT INFORMATION

Ganglioside G_{M4} (chicken egg) (ammonium salt)

Item No. 24851



Formal Name: ganglioside G_{M4}, monoammonium salt
Synonyms: Ganglioside G_7, Monosialoganglioside G_{M4}
MF: $C_{57}H_{106}N_2O_{17} \bullet NH_3$ (for 2-hydroxydocosanoyl)
FW: 1,108.5
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_{M4} (chicken egg) (ammonium salt) is supplied as a solid. A stock solution may be made by dissolving the ganglioside G_{M4} (chicken egg) (ammonium salt) in the solvent of choice, which should be purged with an inert gas. Ganglioside G_{M4} (chicken egg) (ammonium salt) is soluble in a 2:1 solution of chloroform:methanol.

Description

Ganglioside G_{M4} is a sialic acid-containing glycosphingolipid found primarily in the brain of mammals, particularly in human myelin.[1] Ganglioside G_{M4} is also found on epithelial cells in the intestinal tract of the red sea bream where it is an attachment site for Gram-negative *Vibrios*, the bacteria that causes vibriosis in humans after ingestion of raw or undercooked seafood.[2] Ganglioside G_{M4} species have been found as 11 out of 61 gangliosides detected in an adrenal neuroblastoma tumor.[3] Administration of ganglioside G_{M4} (80 and 160 µg) prevents development of myelin basic protein-induced experimental autoimmune encephalomyelitis (EAE) in guinea pigs.[4] This product contains ganglioside G_{M4} molecular species with primarily 2-hydroxy C22:0, 2-hydroxy C24:0, and 2-hydroxy C23:0 fatty acyl chain lengths. *As this product is derived from a natural source, there may be variations in the sphingoid backbone.*

References

1. Ueno, K., Ando, S., and Yu, R.K. Gangliosides of human, cat, and rabbit spinal cords and cord myelin. *J. Lipid Res.* **19(7)**, 863-871 (1978).
2. Chisada, S., Shimizu, K., Kamada, H., *et al.* Vibrios adhere to epithelial cells in the intestinal tract of red sea bream, *Pagrus major*, utilizing GM4 as an attachment site. *FEMS Microbiol. Lett.* **341(1)**, 18-26 (2013).
3. Robu, A.C., Vukelić, Ž., Schiopu, C., *et al.* Mass spectrometry of gangliosides in extracranial tumors: Application to adrenal neuroblastoma. *Anal. Biochem.* **509**, 1-11 (2016).
4. Mullin, B.R., Patrick, D.H., Poore, C.M., *et al.* Prevention of experimental allergic encephalomyelitis by ganglioside G_{M4}. *Brain Res.* **296(1)**, 174-176 (1984).

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