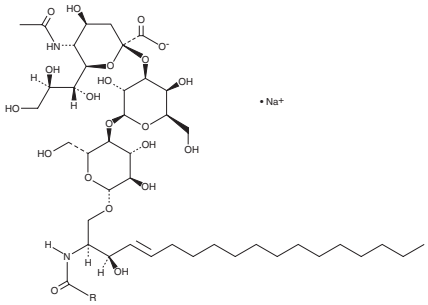
PRODUCT INFORMATION

Ganglioside G_{M3} (bovine brain) (sodium salt)

Item No. 15587



CAS Registry No.: 54827-14-4
Synonyms: Hematoside, Sialosyllactosylceramide
MF: $C_{59}H_{107}N_2O_{21}$ • Na (for tricosanoyl)
FW: 1,203.5
Purity: ≥98%
Supplied as: A lyophilized solid
Storage: -20°C
Stability: ≥4 years
Special Conditions: Forms micellar solution in water

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

Laboratory Procedures

Ganglioside G_{M3} (bovine brain) (sodium salt) is supplied as a lyophilized solid. A stock solution may be made by dissolving the ganglioside G_{M3} (bovine brain) (sodium salt) in the solvent of choice. Ganglioside G_{M3} (bovine brain) (sodium salt) is soluble in a 2:1 solution of chloroform:methanol.

Description

Ganglioside G_{M3} is a monosialoganglioside that demonstrates antiproliferative and pro-apoptotic effects in tumor cells by modulating cell adhesion, proliferation, and differentiation.[1,2] It suppresses angiogenesis and reduces proliferation and migration of human umbilical vein endothelial cells (HUVECs) when used at a concentration of 20 µM *via* inhibition of VEGFR2 and Akt phosphorylation.[1,2] Ganglioside G_{M3} induces dissociation of the insulin receptor-caveolin-1 complex from lipid microdomains, functioning as an inhibitor of insulin signaling and contributing to insulin resistance in adipocytes.[3] This product contains ganglioside G_{M3} 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. Mukherjee, P., Faber, A.C., Shelton, L.M., *et al.* Thematic review series: Sphingolipids. Ganglioside G_{M3} suppresses the proangiogenic effects of vascular endothelial growth factor and ganglioside GD1a. *J. Lipid Res.* **49(5)**, 929-938 (2008).
2. Seyfried, T.N. and Mukherjee, P. Ganglioside G_{M3} is antiangiogenic in malignant brain cancer. *J. Oncol.* 961243 (2010).
3. Kabayama, K., Sato, T., Saito, K., *et al.* Dissociation of the insulin receptor and caveolin-1 complex by ganglioside G_{M3} in the state of insulin resistance. *Proc. Natl. Acad. Sci. U.S.A.* **104(34)**, 13678-13683 (2007).

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