

PRODUCT INFORMATION

Ganglioside G_{M3} (bovine buttermilk) (ammonium salt)

Item No. 31711

CAS Registry No.: 54827-14-4

Synonyms: Hematoside, Monosialoganglioside G_{M1},
Sialosyllactosylceramide

MF: C₆₄H₁₁₇N₂O₂₁ • NH₄ (for tricosanoyl)

FW: 1,268.7

Purity: ≥98%

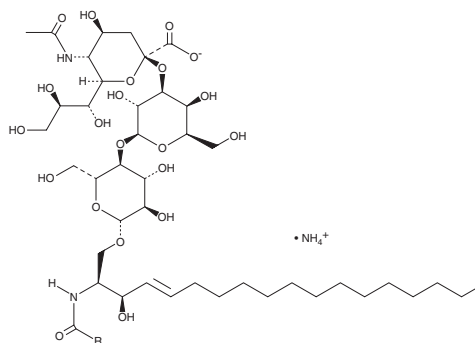
Supplied as: A solid

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_{M3} (bovine buttermilk) (ammonium salt) is supplied as a solid. A stock solution may be made by dissolving the ganglioside G_{M3} (bovine buttermilk) (ammonium salt) in the solvent of choice, which should be purged with an inert gas. Ganglioside G_{M3} (bovine buttermilk) (ammonium 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 C22:0, C23:0, and C24:0 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 GM3 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 GM3 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 GM3 in the state of insulin resistance. *Proc. Natl. Acad. Sci. USA* **104**(34), 13678-13683 (2007).

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.

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