

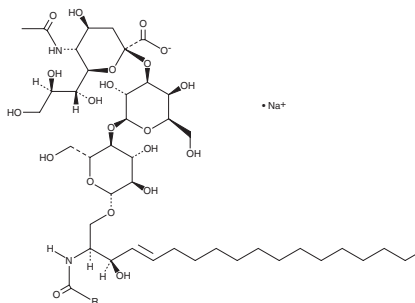
# PRODUCT INFORMATION



## Ganglioside G<sub>M3</sub> (bovine brain) (sodium salt)

Item No. 15587

**CAS Registry No.:** 54827-14-4  
**Synonyms:** Hematoside,  
Sialosyllactosylceramide  
**MF:** C<sub>59</sub>H<sub>107</sub>N<sub>2</sub>O<sub>21</sub> • 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<sub>M3</sub> (bovine brain) (sodium salt) is supplied as a lyophilized solid. A stock solution may be made by dissolving the ganglioside G<sub>M3</sub> (bovine brain) (sodium salt) in the solvent of choice. Ganglioside G<sub>M3</sub> (bovine brain) (sodium salt) is soluble in a 2:1 solution of chloroform:methanol.

### Description

Ganglioside G<sub>M3</sub> is a monosialoganglioside that demonstrates antiproliferative and pro-apoptotic effects in tumor cells by modulating cell adhesion, proliferation, and differentiation.<sup>1,2</sup> 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.<sup>1,2</sup> Ganglioside G<sub>M3</sub> 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.<sup>3</sup> This product contains ganglioside G<sub>M3</sub> 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<sub>M3</sub> 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<sub>M3</sub> 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<sub>M3</sub> in the state of insulin resistance. *Proc. Natl. Acad. Sci. U.S.A.* **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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