

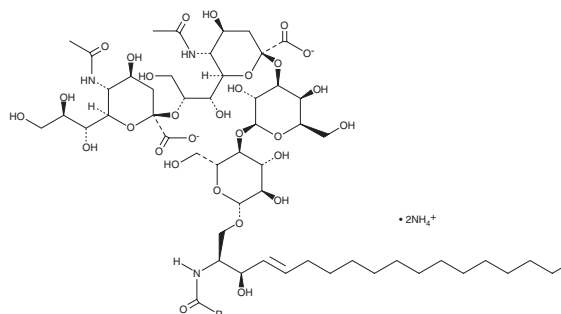
PRODUCT INFORMATION



Ganglioside G_{D3} (bovine buttermilk) (ammonium salt)

Item No. 31709

CAS Registry No.: 62010-37-1
Synonyms: Disialosyllactosylceramide,
Disialoganglioside G_{D3}
MF: C₇₅H₁₃₃N₃O₂₉ • 2NH₄ (for tricosanoyl)
FW: 1,577.0
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_{D3} (bovine buttermilk) (ammonium salt) is supplied as a solid. A stock solution may be made by dissolving the ganglioside G_{D3} (bovine buttermilk) (ammonium salt) in the solvent of choice, which should be purged with an inert gas. Ganglioside G_{D3} (bovine buttermilk) (ammonium salt) is soluble in a 2:1 solution of chloroform:methanol.

Description

Ganglioside G_{D3} is synthesized by the addition of two sialic acid residues to lactosylceramide and can serve as a precursor to the formation of more complex gangliosides by the action of glycosyl- and sialyltransferases.¹ It induces apoptosis in HuT-78 cutaneous T cell lymphoma cells in a concentration-dependent manner and disrupts the mitochondrial membrane potential when used at a concentration of 200 μM.² Expression of ganglioside G_{D3} in G_{D3}-negative SK-MEL-28-N1 malignant melanoma cells increases both cell proliferation and invasion *in vitro*.³ Ganglioside G_{D3}-deficient adult mice exhibit progressive loss of the neural stem cell (NSC) pool and impaired neurogenesis.⁴ This product contains ganglioside G_{D3} molecular species with primarily C23:0, C22:0, 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. Kolter, T. Ganglioside biochemistry. *ISRN Biochem.* 506160 (2012).
2. De Maria, R., Lenti, L., Malisan, F., *et al.* Requirement for G_{D3} ganglioside in CD95- and ceramide-induced apoptosis. *Science* **277(5332)**, 1652-1655 (1997).
3. Hamamura, K., Furukawa, K., Hayashi, T., *et al.* Ganglioside G_{D3} promotes cell growth and invasion through p130Cas and paxillin in malignant melanoma cells. *Proc. Natl. Acad. Sci. USA* **102(31)**, 11041-11046 (2005).
4. Wang, J., Cheng, A., Wakade, C., *et al.* Ganglioside G_{D3} is required for neurogenesis and long-term maintenance of neural stem cells in the postnatal mouse brain. *J. Neurosci.* **34(41)**, 13790-13800 (2014).

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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/13/2022

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