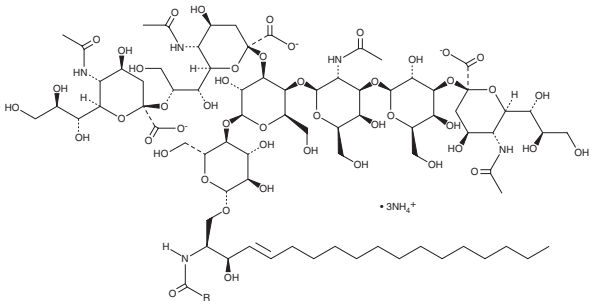
PRODUCT INFORMATION

Ganglioside G_{T1b} (porcine) (ammonium salt)

Item No. 31592

CAS Registry No.: 59247-13-1
Formal Name: ganglioside G_{T1b}, triammonium salt
Synonyms: Ganglioside G_1, Trisialoganglioside G_{T1b}
MF: $C_{95}H_{162}N_5O_{47} \bullet 3NH_4$ (for stearoyl)
FW: 2,180.5
Purity: ≥98%
Supplied as: A 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_{T1b} (porcine) (ammonium salt) is supplied as a solid. A stock solution may be made by dissolving the ganglioside G_{T1b} (porcine) (ammonium salt) in the solvent of choice, which should be purged with an inert gas. Ganglioside G_{T1b} (porcine) (ammonium salt) is soluble in a 2:1:0.1 solution of chloroform:methanol:DI water. We do not recommend storing the aqueous solution for more than one day.

Description

Ganglioside G_{T1b} is a trisialoganglioside that is characterized by having two sialic residues linked to the inner galactose unit. It binds to the neurotoxins botulinum toxin serotype A (BTxA), BTxA heavy chain, and tetanus toxin with IC_{50} values of 11, 0.74, and 7.2 µM, respectively.[1] Ganglioside G_{T1b}-containing liposomes bind to the major coat protein VP1 from Merkel cell polyomavirus (MCPyV), which has been identified in Merkel cell carcinomas, identifying ganglioside G_{T1b} as a putative MCPyV receptor.[2] Ganglioside G_{T1b} decreases spontaneous production of IL-6, IL-10, IgG, IgM, and IgA in human peripheral blood mononuclear cells (PBMCs) by 31.4, 30.5, 60, 59.5, and 58%, respectively, when used at a concentration of 10 µM.[3] This product contains ganglioside G_{T1b} 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. Schengrund, C.-L., DasGupta, B.R., and Ringler, N.J. Binding of botulinum and tetanus neurotoxins to ganglioside GT1b and derivatives thereof. *J. Neurochem.* **57(3)**, 1024-1032 (1991).
2. Erickson, K.D., Garcea, R.L., and Tsai, B. Ganglioside GT1b is a putative host cell receptor for the Merkel cell polyomavirus. *J. Virol.* **83(19)**, 10275-10279 (2009).
3. Kanda, N. and Tamaki, K. Ganglioside GT1b suppresses immunoglobulin production by human peripheral blood mononuclear cells. *Immunology* **96(4)**, 628-633 (1999).

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