

# PRODUCT INFORMATION



## C18 Ganglioside G<sub>M1</sub>-d<sub>3</sub> (d18:1/18:0-d<sub>3</sub>) (ammonium salt)

Item No. 24839

**Formal Name:** (2S,4S,5R,6R)-5-acetamido-2-(((2R,3S,4R,5R,6S)-3-(((2S,3R,4R,5R,6R)-3-acetamido-5-hydroxy-6-(hydroxymethyl)-4-(((2R,3R,4S,5R,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)tetrahydro-2H-pyran-2-yl)oxy)tetrahydro-2H-pyran-2-yl)oxy)-6-(((2R,3S,4R,5R,6R)-4,5-dihydroxy-6-(((2S,3R,E)-3-hydroxy-2-(octadecanamido-18,18,18-d<sub>3</sub>)octadec-4-en-1-yl)oxy)-2-(hydroxymethyl)tetrahydro-2H-pyran-3-yl)oxy)-5-hydroxy-2-(hydroxymethyl)tetrahydro-2H-pyran-4-yl)oxy)-4-hydroxy-6-((1R,2R)-1,2,3-trihydroxypropyl)tetrahydro-2H-pyran-2-carboxylate

**Synonyms:** N-omega-CD<sub>3</sub>-Octadecanoyl monosialoganglioside G<sub>M1</sub>-d<sub>3</sub>, N-CD<sub>3</sub>-Stearoyl-GM, C18 G<sub>M1</sub>-d<sub>3</sub>, G<sub>M1</sub> (18:1/18:0-d<sub>3</sub>), G<sub>M1</sub> (d18:1/C18:0)-d<sub>3</sub>, Monosialoganglioside G<sub>M1</sub>-d<sub>3</sub>, N-Stearoyl Monosialoganglioside G<sub>M1</sub>-d<sub>3</sub>

**MF:** C<sub>73</sub>H<sub>127</sub>D<sub>3</sub>N<sub>3</sub>O<sub>31</sub> • NH<sub>4</sub>

**FW:** 1,566.9

**Chemical Purity:** ≥95% Ganglioside G<sub>M1</sub>

**Deuterium**

**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>

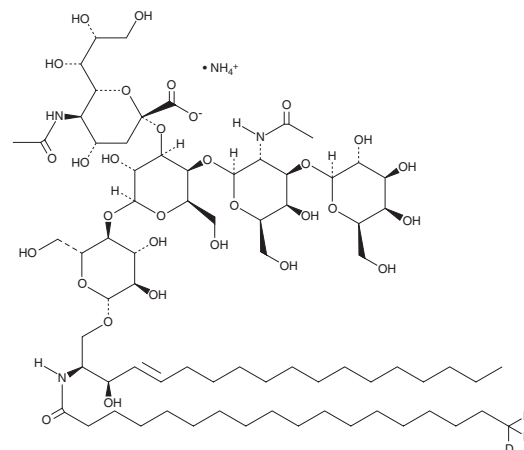
**Supplied as:** A solid

**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

C18 Ganglioside G<sub>M1</sub>-d<sub>3</sub> (d18:1/18:0-d<sub>3</sub>) (ammonium salt) is intended for use as an internal standard for the quantification of ganglioside G<sub>M1</sub> (Item No. 19579) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

C18 Ganglioside G<sub>M1</sub>-d<sub>3</sub> (d18:1/18:0-d<sub>3</sub>) (ammonium salt) is supplied as a solid. A stock solution may be made by dissolving the C18 ganglioside G<sub>M1</sub>-d<sub>3</sub> (d18:1/18:0-d<sub>3</sub>) (ammonium salt) in the solvent of choice. C18 Ganglioside G<sub>M1</sub>-d<sub>3</sub> (d18:1/18:0-d<sub>3</sub>) (ammonium salt) is soluble in a 2:1:0.1 solution of chloroform:methanol:water.

### Description

Ganglioside G<sub>M1</sub> is a monosialylated ganglioside and the prototypic ganglioside for those containing one sialic acid residue.<sup>1,2</sup> C18 Ganglioside G<sub>M1</sub> is found in the brain, primarily in the piriform cortex, amygdala nucleus, striatum, and hippocampal CA1 region.<sup>3</sup> The ratio of C18 ganglioside G<sub>M1</sub> (d20:1/18:0) to C18 ganglioside G<sub>M1</sub> is decreased in the outer molecular layer of the hippocampal dentate gyrus in postmortem tissue from patients with Alzheimer's disease.<sup>4</sup> 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. Mocchetti, I. *Cell Mol. Life Sci.* **62(19-20)**, 2283-2294 (2005).
3. Andres, A.D., Young, L.E.A., Gentry, M.S., et al. *J. Lipid Res.* (2020).
4. Hirano-Sakamaki, W., Sugiyama, E., Hayasaka, T., et al. *FEBS Lett.* **589(23)**, 3611-3616 (2015).

#### 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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