

PRODUCT INFORMATION

C18 Ganglioside G_{M2} - d_7 ($d_{18:1}/18:0$ - d_7) (ammonium salt, synthetic) Item No. 39641

Formal Name: N-[(1S,2R,3E)-1-[[[O-2-(acetylamino)-2-deoxy- β -D-galactopyranosyl-(1 $\rightarrow$ 4)-O-[N-acetyl- α -neuraminosyl-(2 $\rightarrow$ 3)]-O- β -D-galactopyranosyl-(1 $\rightarrow$ 4)- β -D-glucopyranosyl]oxy)methyl]-2-hydroxy-3-heptadecen-1-yl]-octadecanamide-16,16,17,17,18,18,18- d_7 , monoammonium salt

Synonyms: C18 G_{M2} - d_7 , Monosialoganglioside G_{M2} - d_7 , N-*omega*-CD $_7$ -Octadecanoyl monosialoganglioside G_{M2} , N-Stearoyl Monosialoganglioside G_{M2} - d_7

MF: $C_{67}H_{113}D_7N_3O_{26} \cdot NH_4$

FW: 1,408.8

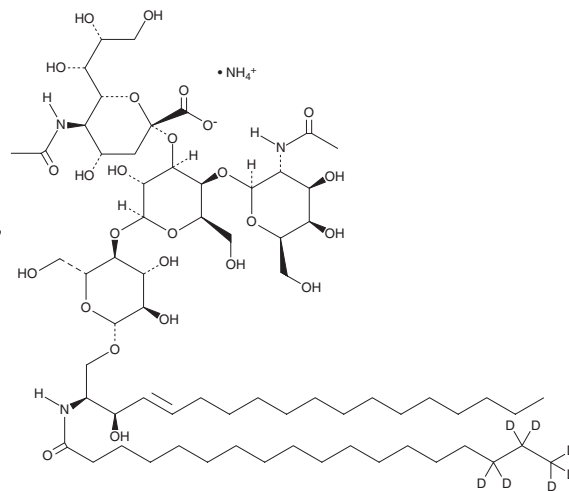
Chemical Purity: $\geq 95\%$ (C18 Ganglioside G_{M2})

Deuterium Incorporation: $\geq 99\%$ deuterated forms (d_1 - d_7); $\leq 1\%$ d_0

Supplied as: A solution in methanol

Storage: $-20^\circ C$

Stability: ≥ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

C18 Ganglioside G_{M2} - d_7 ($d_{18:1}/18:0$ - d_7) (ammonium salt, synthetic) is intended for use as an internal standard for the quantification of C18 ganglioside G_{M2} 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).

Description

C18 Ganglioside G_{M2} is a monosialylated ganglioside found in the mammalian brain where it is localized to the cell membrane.¹ It accumulates in Tay-Sachs and Sandhoff disease, which are neurodegenerative disorders characterized by deficiency of lysosomal β -hexosaminidase A and B, respectively.² Ganglioside G_{M2} disrupts the function of immune cells and, when used at a concentration of 25 μM , increases migration and invasion of SK-RC-45 cells with no effect on proliferation.³ *This product is fully synthetic and has no variations in the fatty acyl chain or sphingoid backbone. It is intended for use as an analytical standard for the quantification of C18 ganglioside G_{M2} by GC-MS*

References

1. Schnaar, R.L. Gangliosides of the vertebrate nervous system. *J. Mol. Biol.* **428**(16), 3325-3336 (2016).
2. Baek, R.C., Martin, D.R., Cox, N.R., et al. Comparative analysis of brain lipids in mice, cats, and humans with Sandhoff disease. *Lipids* **44**(3), 197-205 (2009).
3. Kundu, M., Mahata, B., Banerjee, A., et al. Ganglioside GM2 mediates migration of tumor cells by interacting with integrin and modulating the downstream signaling pathway. *Biochim. Biophys. Acta* **1863**(7 Pt A), 1472-1489 (2016).

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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