

PRODUCT DATA SHEET

lyso-Globoside

Catalog No: 1541

Common Name: *lyso-Gb₄*; *lyso-Globotetrahexosylceramide*

Source: semisynthetic, porcine RBC

Solubility: chloroform/methanol/DI water,
(2:1:0.1)

Molecular Formula: C₄₄H₈₀N₂O₂₂

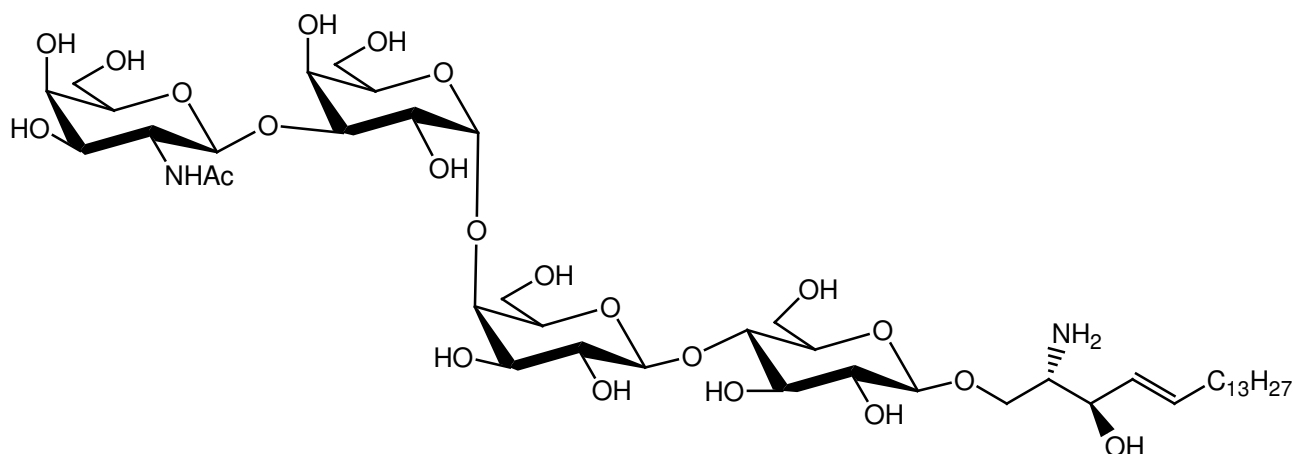
Molecular Weight: 989

Storage: -20°C

Purity: TLC > 98%; identity confirmed by MS

TLC System: chloroform/methanol/DI water,
(60:40:9 by vol.)

Appearance: solid



Application notes:

lyso-Globoside is the sphingosine-N-deacetylated analog of the neutral glycosphingolipid globoside. *lyso-glycosphingolipids* can have very different physiological functions compared to their acetylated counterparts.

Globoside is the most abundant neutral glycolipid in the erythrocyte membrane, accumulating in lipid rafts of the cell wall. They are involved in cell communication, increase cell adhesion, and function as receptors. It is an essential structure of the blood group P-antigen. A deficiency in this antigen leads to anti-globoside antibodies and the P blood group phenotypes. Globoside is a receptor for multiple toxins including P-fimbriated *Escherichia coli*, human parvovirus B19¹ and pierisin-1 toxin from the cabbage butterfly.² In Tay-Sachs and Sandhoff disease globoside can accumulate due to the deficiency of *beta*-hexosaminidase.³

Selected References:

1. Boel Lanne et al "Glycoconjugate Receptors for P-fimbriated *Escherichia coli* in the Mouse an Animal Model of Urinary Tract Infection" *The Journal of Biological Chemistry*, Vol. 270 pp. 9017, 1995
2. Yuko Matsushima-Hibiya "Identification of Glycosphingolipid Receptors for Pierisin-1, a Guanine-specific ADP-ribosylating Toxin from the Cabbage Butterfly" *The Journal of Biological Chemistry*, Vol. 278 pp. 9972, 2003
3. R. A. Gravel, M. M. Kaback, R. Proia, K. Sandhoff, K. Suzuki, and K. Suzuki. in *The Metabolic and Molecular Bases of Inherited Disease* (C. R. Scriver, W. S. Sly, B. Childs, A. L. Beaudet, D. Valle, K. W. Kinzler, and B. Vogelstein, eds) pp. 3827–3876, McGraw-Hill Inc., New York, 2001

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