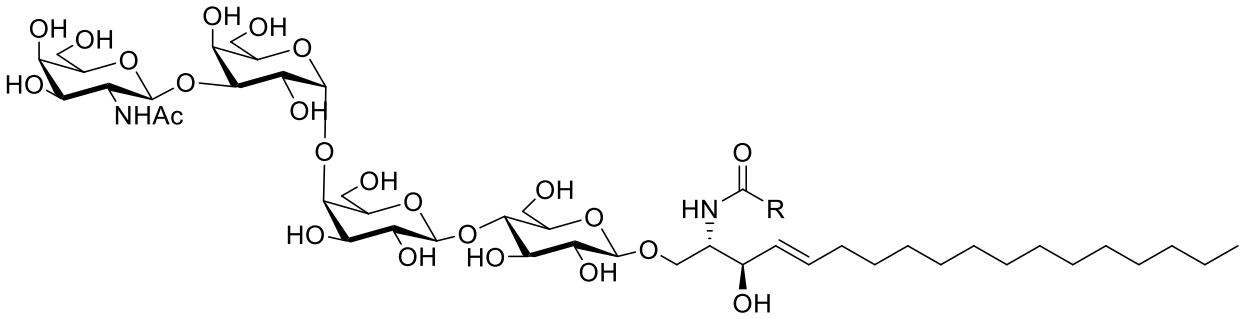
PRODUCT DATA SHEET

Globosides

Catalog No: 1068
Common Name: Gb_4; Globotetrahexosylceramide
Source: natural, porcine RBC
Solubility: chloroform/methanol, (2:1); DMSO, hot methanol
CAS No: 11034-93-8
Molecular Formula: $C_{68}H_{126}N_2O_{23}$

Molecular Weight: 1340 (tetracosanoyl)
Storage: -20°C
Purity: TLC > 98%; identity confirmed by MS
TLC System: chloroform/methanol/DI water, (65:25:4 by vol.)
Appearance: solid



Application notes:

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 B19[1] and pierisin-1 toxin from the cabbage butterfly.[2] In Tay-Sachs and Sandhoff disease globoside can accumulate due to the deficiency of the *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, 2*001*

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