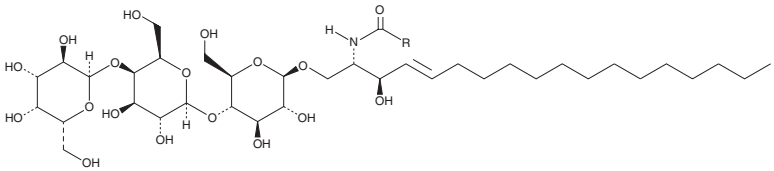
PRODUCT INFORMATION

Globotriaosylceramide (non-hydroxy) (porcine RBC)

Item No. 24871

Formal Name: 1-O-(O-α-D-galactopyranosyl-(1→4)-O-β-D-galactopyranosyl-(1→4)-β-D-glucopyranosyl)-ceramide
Synonym: Ceramide Trihexosides (top spot) (porcine)
MF: $C_{54}H_{101}NO_{18}$ (for stearoyl)
FW: 1,052.4
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Globotriaosylceramide (non-hydroxy) (porcine RBC) is supplied as a solid. A stock solution may be made by dissolving the globotriaosylceramide (non-hydroxy) (porcine RBC) in the solvent of choice, which should be purged with an inert gas. Globotriaosylceramide (non-hydroxy) (porcine RBC) is soluble in a 2:1 solution of chloroform:methanol.

Description

Globotriaosycleramides are glycosphingolipids found in mammalian cell membranes that are synthesized from lactosylceramides (Item No. 16983).[1] They act as receptors for Shiga and Shiga-like toxins *in vitro* and *in vivo*.[2] Globotriaosylceramides accumulate in endothelial cells, pericytes, vascular smooth muscle cells, renal epithelial cells, dorsal ganglia neuronal cells, and myocardial cells in patients with Fabry disease, a lysosomal storage disorder characterized by a deficiency in the enzyme α-galactosidase A.[3] Globotriaosylceramides act as natural resistance factors to HIV infection, interacting with HIV gp120 to prevent its interaction with chemokine co-receptors and subsequent fusion of HIV to host cell membranes.[1] This product contains non-hydroxy fatty acid-containing globotriaosylceramide molecular species with primarily C22:0 and C24:0 fatty acyl chain lengths. *As this product is derived from a natural source, there may be variations in the sphingoid backbone.*

References

1. Lingwood, C.A. and Branch, D.R. The role of glycosphingolipids in HIV/AIDS. *Discov. Med.* **11(59)**, 303-313 (2011).
2. Takeda, Y., Kurazono, H., and Yamasaki, S. Vero toxins (Shiga-like toxins) produced by enterohemorrhagic *Escherichia coli* (verocytotoxin-producing *E. coli*). *Microbiol. Immunol.* **37(8)**, 591-599 (1993).
3. Feldt-Rasmussen, U., Rasmussen, A.K., Mersebach, H., *et al.* Fabry disease: A new challenge in endocrinology and metabolism? *Eur. J. Endocrinol.* **146(6)**, 741-742 (2002).

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