

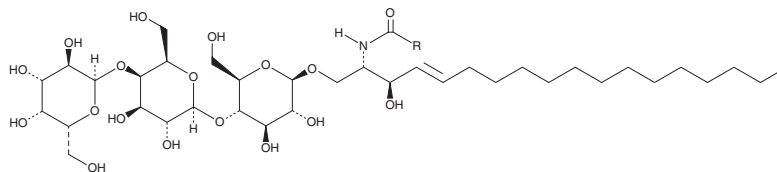
# PRODUCT INFORMATION



## Globotriaosylceramide (porcine RBC)

Item No. 24870

**CAS Registry No.:** 71965-57-6  
**Formal Name:** 1-O-(O- $\alpha$ -D-galactopyranosyl-(1 $\rightarrow$ 4)-O- $\beta$ -D-galactopyranosyl-(1 $\rightarrow$ 4)- $\beta$ -D-glucopyranosyl)-ceramide  
**Synonym:** Ceramide Trihexosides (porcine)  
**MF:** C<sub>60</sub>H<sub>113</sub>NO<sub>18</sub> (for tetracosanoyl)  
**FW:** 1,136.6  
**Purity:**  $\geq$ 98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



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

### Laboratory Procedures

Globotriaosylceramide (porcine RBC) is supplied as a solid. A stock solution may be made by dissolving the globotriaosylceramide (porcine RBC) in the solvent of choice, which should be purged with an inert gas. Globotriaosylceramide (porcine RBC) is soluble in DMSO and methanol (warmed).

### Description

Globotriaosylceramides are glycosphingolipids found in mammalian cell membranes that are synthesized from lactosylceramides (Item No. 16983).<sup>1</sup> They act as receptors for Shiga and Shiga-like toxins *in vitro* and *in vivo*.<sup>2</sup> 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  $\alpha$ -galactosidase A.<sup>3</sup> 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.<sup>1</sup> This product contains globotriaosylceramides with primarily C24:0, 2-hydroxy C24:0, and C22:0 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).

#### 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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