

PRODUCT INFORMATION



Globotetraosylceramide Polyclonal Antibody

Item No. 28641

Overview and Properties

Contents:	This vial contains 50 µl of polyclonal antibody to GL-4.
Synonym:	Globoside GL-4 Polyclonal Antibody
Immunogen:	Purified globotetraosylceramide and complete Freund's adjuvant
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥2 year
Host:	Rabbit
Isotype:	IgG/IgM
Applications:	ELISA and TLC immunoblotting; The optimal working concentration/dilution should be determined empirically.

Description

Globotetraosylceramides (Item Nos. 24881) are bioactive neutral glycosphingolipids. They are the major glycolipids in human erythrocytes.¹ They act as receptors for the Shiga toxins Stx1, Stx2, and Stx2e, the cytotoxic protein pierisin-1, and parvovirus B19.²⁻⁴ Globotetraosylceramides increase the expression of proteins responsible for enamel deposition, including ameloblastin, amelogenin, and enamelin, in dental epithelial cells and activate the ERK and p38 MAPK signaling pathways.⁵ Levels of globotetraosylceramides are elevated in fibroblasts from patients with salt and pepper syndrome, a neurocutaneous condition characterized by intellectual disability and hyper- and hypo-pigmented skin.⁶ Globotetraosylceramide Polyclonal Antibody can be used for ELISA and TLC immunoblotting.

References

1. Yamakawa, T., Yokoyama, S., and Kiso, N. Structure of main globoside of human erythrocytes. *J. Biochem.* **52(3)**, 228-229 (1962).
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3. Matsushima-Hibiya, Y., Watanabe, M., Hidari, J.I.-P.J., *et al.* Identification of glycosphingolipid receptors for pierisin-1, a guanine-specific ADP-ribosylating toxin from the cabbage butterfly. *J. Biol. Chem.* **278(11)**, 9972-9978 (2003).
4. Nasir, W., Nilsson, J., Ologsson, S., *et al.* Parvovirus B19 VLP recognizes globoside in supported lipid bilayers. *Virology* **456-457**, 364-369 (2014).
5. Nakamura, T., Chiba, Y., Naruse, M., *et al.* Globoside accelerates the differentiation of dental epithelial cells into ameloblasts. *Int. J. Oral Sci.* **8(4)**, 205-212 (2016).
6. Boccuto, L., Aoki, K., Flanagan-Steet, H., *et al.* A mutation in a ganglioside biosynthetic enzyme, ST3GAL5, results in salt & pepper syndrome, a neurocutaneous disorder with altered glycolipid and glycoprotein glycosylation. *Hum. Mol. Genet.* **23(2)**, 418-433 (2014).

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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