

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human ST8 $\alpha$ -2,8-Sialyltransferase 8A/ST8SIA1 in direct ELISAs and Western blots.                                                                                                                                                                            |
| <b>Source</b>             | Polyclonal Sheep IgG                                                                                                                                                                                                                                                        |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Chinese hamster ovary cell line CHO-derived recombinant human ST8 $\alpha$ -2,8-Sialyltransferase 8A/ST8SIA1<br>Tyr49-Ser356<br>Accession # Q92185                                                                                                                          |
| <b>Conjugate</b>          | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>Western Blot</b>         | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

Gangliosides are acidic glycosphingolipids that contain one or more sialic acid residues and are particularly prevalent on neuronal cells (1). Ganglioside GD3 is involved in cell adhesion and the growth of cultured malignant cells (2). ST8SIA1 is a sialyltransferase that catalyzes the transfer of sialic acid from CMP-sialic acid to GM3 (NeuNAc $\alpha$ 2-3Gal $\beta$ 1-4Glc-Cer) to produce GD3 (NeuNAc $\alpha$ 2-8NeuNAc $\alpha$ 2-3Gal $\beta$ 1-4Glc-Cer) and GT3 (NeuNAc $\alpha$ 2-8NeuNAc $\alpha$ 2-8NeuNAc $\alpha$ 2-3Gal $\beta$ 1-4Glc-Cer) in a successive manner (3); therefore the enzyme has both GD3 and GT3 synthase activity (4). ST8SIA1 is mainly expressed in adult and fetal brain, and its expression is enhanced in melanoma cell lines (3, 4, 5). Like most known glycosyltransferases, ST8SIA1 is predicted as a type II transmembrane protein with a short N-terminal cytoplasmic domain and a single-pass transmembrane domain followed by an enzymatic domain in the lumen of the Golgi apparatus. However, recently GD3 synthase activity was demonstrated at the surface of epithelial and melanoma cells, suggesting glycosphingolipid synthesis may occur at the cell membrane (6). Recombinant ST8SIA1 also showed activity on fetuin from fetal calf serum, when measured using a phosphatase-coupled method (7).

#### PRODUCT SPECIFIC NOTICES

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