Human ST8 α-2,8-Sialyltransferase 8A/ ST8SIA1 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF6716

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human ST8 α-2,8-Sialyltransferase 8A/ST8SIA1 in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human ST8 α-2,8-Sialyltransferase 8A/ST8SIA1 Tyr49-Ser356 Accession # Q92185
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

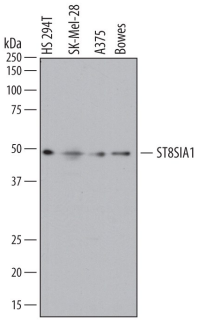
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	2 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

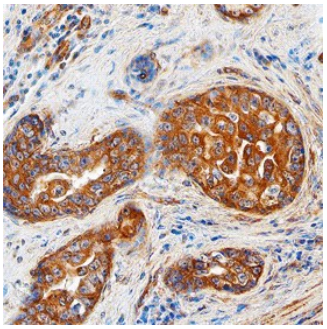
DATA

Western Blot



Detection of Human ST8 α-2,8-Sialyltransferase 8A/ ST8SIA1 by Western Blot.
Western blot shows lysates of Hs 294T human melanoma cell line, SK-Mel-28 human malignant melanoma cell line, A375 human melanoma cell line, and Bowes human melanoma cell line. PVDF membrane was probed with 2 µg/mL of Sheep Anti-Human ST8 α-2,8-Sialyltransferase 8A/ST8SIA1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6716) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for ST8 α-2,8-Sialyltransferase 8A/ST8SIA1 at approximately 48-50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



ST8 α-2,8-Sialyltransferase 8A/ST8SIA1 in Human Breast Cancer Tissue.
ST8 α-2,8-Sialyltransferase 8A/ST8SIA1 was detected in immersion fixed paraffin-embedded sections of human breast cancer tissue using Sheep Anti-Human ST8 α-2,8-Sialyltransferase 8A/ST8SIA1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6716) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm of epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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 (NeuNAcα2-3Galβ1-4Glc-Cer) to produce GD3 (NeuNAcα2-8NeuNAcα2-3Galβ1-4Glc-Cer) and GT3 (NeuNAcα2-8NeuNAcα2-8NeuNAcα2-3Galβ1-4Glc-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).

References:

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6. Crespo, P.M. *et al.* (2010) J. Biol. Chem. **285**:29179.
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