Human ST8 α-2,8-Sialyltransferase 8B/ ST8SIA2 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG

Catalog Number: AF6590

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human α-2,8-Sialyltransferase 8B/ST8SIA2 in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human α-2,8-Sialyltransferase 8B/ST8SIA2 Asp24-Thr375 Accession # Q92186
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 either lyophilized or as a 0.2 μm filtered solution in PBS.

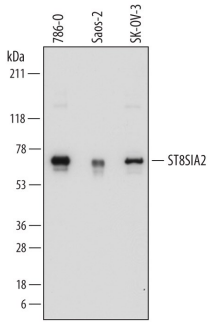
APPLICATIONS

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	0.2 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Intracellular Staining by Flow Cytometry	2.5 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

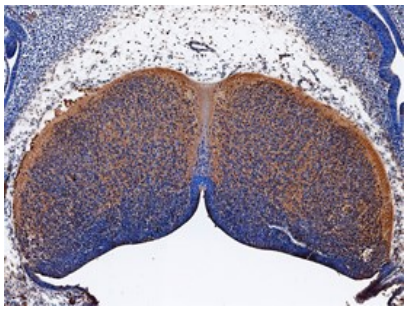
DATA

Western Blot



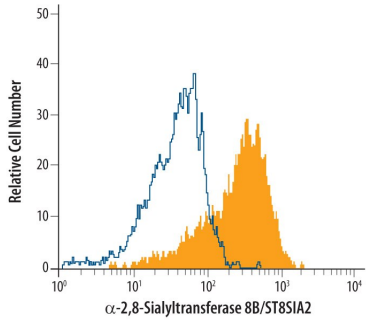
Detection of Human α-2,8-Sialyltransferase 8B/ST8SIA2 by Western Blot. Western blot shows lysates of 786-O human renal cell adenocarcinoma cell line, Saos-2 human osteosarcoma cell line, and SK-OV-3 human ovarian adenocarcinoma cell line. PVDF membrane was probed with 0.2 µg/mL of Sheep Anti-Human a-2,8-Sialyltransferase 8B/ ST8SIA2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6590) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # Catalog # HAF016). A specific band was detected for a-2,8-Sialyltransferase 8B/ST8SIA2 at approximately 63 to 67 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



α-2,8-Sialyltransferase 8B/ ST8SIA2 in Mouse Embryo. a-2,8-Sialyltransferase 8B/ ST8SIA2 was detected in immersion fixed frozen sections of mouse embryo (13 d.p.c.) using Sheep Anti-Human a-2,8-Sialyltransferase 8B/ ST8SIA2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6590) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # Catalog # CTS019) and counter-stained with hematoxylin (blue). Specific staining was localized to the developing brain. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

Intracellular Staining by Flow Cytometry



Detection of α-2,8-Sialyltransferase 8B/ST8SIA2 in IMR-32 Human Cell Line by Flow Cytometry. IMR-32 human neuroblastoma cell line was stained with Sheep Anti-Human a-2,8-Sialyltransferase 8B/ ST8SIA2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6590, filled histogram) or control antibody (Catalog # Catalog # 5-001-A, open histogram), followed by Allophycocyanin-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # Catalog # F0127). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human ST8 α-2,8-Sialyltransferase 8B/ ST8SIA2 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF6590

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

ST8SIA2, also known as sialyltransferase X, is mainly expressed during embryonic development (4) and shows strict preference on NCAM (6). Polysialic acid (PSA), abundant on the neural cell adhesion molecule (NCAM) during embryonic development, acts as an anti-adhesive glycan to negatively modulate the adhesive properties of NCAM (1). PSA expression decreases promptly after birth, and becomes restricted to the hippocampus, hypothalamus, and olfactory bulb, areas of the brain that require continuous cell migration and synaptic plasticity (2). Expression of PSA in cancer cells has been suggested to increase tumor invasiveness and to promote tumor growth (3). The temporal regulation of PSA is dependent on the expression of two polysialyltransferases, ST8SIA4 and ST8SIA2 (4, 5). The high degree of substrate specificity is achieved through specific enzyme-substrate recognition at both the protein sequence and glycan structure levels (6, 7). Like most glycosyltransferases, ST8SIA2 is a Golgi-resident type II membrane protein. The activity of this enzyme has been measured with a phosphatase-coupled method (8).

References:

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4. Angata, K. *et al.* (1997) J. Biol. Chem. **272**:7182.
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