abcam

ab225793

Anti-ST6GAL1 antibody [EPR22054-238]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22054-238
Purification technique	Affinity purification Protein A
Concentration	0.509 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	-

Target data

See full target information ST6GAL1

Function	Transfers sialic acid from CMP-sialic acid to galactose-containing acceptor substrates. In B lymphocytes, generates neuraminidase-sensitive lymphocyte cell-surface differentiation antigens, such as CDw75, HB-6 and CD76 (PubMed:1730763). Sialylates complex-type N-glycans attached on the fragment crystallizable (Fc) of IgGs confering anti-inflammatory effector functions. Preferentially monosialylates the alpha(1->3) mannose antenna of Fc glycoforms with subsequent disialylation occurring at a much slower rate.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	ST6GAL1 is an enzyme that belongs to the glycosyltransferase family specifically classified as a sialyltransferase. ST6GAL1 catalyzes the addition of sialic acid to glycoproteins and glycolipids impacting their function and stability. It has an approximate molecular mass of 45 kDa. ST6GAL1 is expressed in a variety of cell types including B lymphocytes and epithelial cells. Its expression can be observed on the cell surface where it plays important roles in cell-cell interactions.
Biological function summary	ST6GAL1 contributes to the mechanics of cell signaling and immune system modulation. ST6GAL1 is involved in the biosynthesis of sialylated glycoconjugates which affect cellular recognition and communication. This enzyme does not form part of a multi-protein complex but interacts with other proteins upon glycosylation events. Through its action ST6GAL1 impacts multiple cellular processes including inflammation regulation and pathogen recognition.
Pathways	ST6GAL1 plays roles in glycosylation and immune response mechanisms. It participates in the N-glycan biosynthesis pathway which influences protein folding and stability. Additionally ST6GAL1 impacts the sialylation pathway where it modifies the surface proteins for lymphocyte activation. Importantly ST6GAL1

	interacts with proteins such as Siglecs which are involved in immune response modulation and cellular recognition.
Associated diseases and disorders	ST6GAL1 is implicated in cancer progression and autoimmune diseases. In various cancers such as colon cancer altered ST6GAL1 expression affects metastatic potential and tumor cell survival. Additionally aberrant ST6GAL1 expression occurs in autoimmune diseases like lupus wherein it modulates immune cell activity. ST6GAL1 interacts with proteins like CD22 a sialic acid-binding lectin on B cells influencing disease pathogenesis and progression through immune system pathways.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

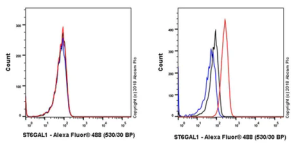
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

4 product images

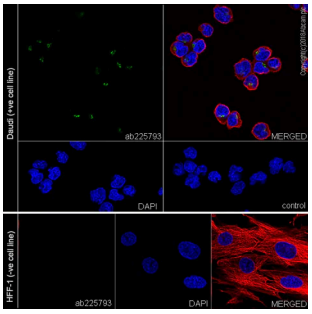


Flow Cytometry (Intracellular) - Anti-ST6GAL1 antibody [EPR22054-238] (ab225793)

ST6GAL1 Flow Cytometry (Intracellular) staining using rabbit Anti-ST6GAL1 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized HFF-1 (humanskin fibroblast cell line; Left panel) and Daudi (human Burkitt's lymphoma cell line; Right panel) cell lines labeling ST6GAL1 with ab225793 at 1/50 dilution (red) compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an

unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/2000 dilution was used as the secondary antibody.
Negative control: HFF-1 [PMID: 23358684].



Immunocytochemistry/ Immunofluorescence - Anti-ST6GAL1 antibody [EPR22054-238] (ab225793)

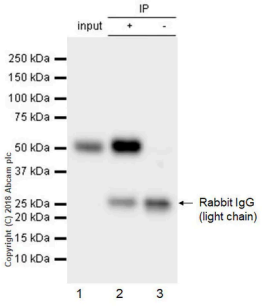
ST6GAL1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ST6GAL1 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Daudi (human Burkitt's lymphoma cell line) and HFF-1 (human skin fibroblast cell line) cells labeling ST6GAL1 with ab225793 at 1/50 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green).
Confocal image showing cytoplasmic staining in Daudi cells, likely localized to the Golgi (PMID: 23578204).

Negative control: HFF-1 (human skin fibroblast) [PMID: 23358684].

The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Immunoprecipitation - Anti-ST6GAL1 antibody [EPR22054-238] (ab225793)

ST6GAL1 was immunoprecipitated from 0.35 mg of Raji (Human Burkitt's lymphoma cell line) whole cell lysate with ab225793 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab225793 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/1000 dilution.
Lane 1: Raji whole cell lysate 10 µg (Input).

Lane 2: ab225793 IP in Raji whole cell lysate.

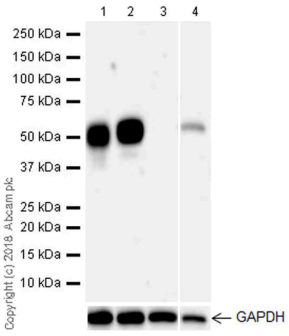
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab225793 in Raji whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 15 seconds.

All lanes:
Immunoprecipitation - Anti-ST6GAL1 antibody [EPR22054-238] (ab225793)

Predicted band size: 47 kDa



Western blot - Anti-ST6GAL1 antibody [EPR22054-238] (ab225793)

ST6GAL1 Western blot staining using rabbit Anti-ST6GAL1 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
The molecular mass observed is consistent with the literature (PMID 23358684).

Negative control: HFF-1 (PMID: 23358684).

All lanes:
Western blot - Anti-ST6GAL1 antibody [EPR22054-238] (ab225793) at 1/1000 dilution

Lane 1:
Daudi (human Burkitt's lymphoma cell line) whole cell lysate at 10 µg

Lane 2:
Raji (human Burkitt's lymphoma cell line) whole cell lysate at 10 µg

Lane 3:
HFF-1 (human skin fibroblast cell line) whole cell lysate at 10 µg

Lane 4:
THP-1 (human monocytic leukemia cell line) whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 47 kDa

Observed band size: 50 kDa

Exposure time: 3min

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.