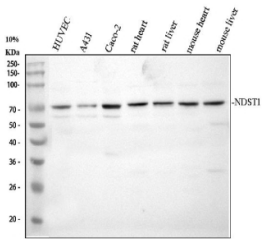
NDST1 Antibody / N-deacetylase/N-sulfotransferase 1 (FY12617)

Catalog No.	Formulation	Size
FY12617	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P52848
Applications	ELISA : 0.1-0.5ug/ml Western Blot : 0.25-0.5ug/ml
Limitations	This NDST1 antibody is available for research use only.



Western blot analysis of NDST1 using anti-NDST1 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human HUVEC whole cell lysates. Lane 2: human whole cell lysates. Lane 3: human CACO-2 whole cell lysates. Lane 4: rat heart tissue lysates, Lane 5: rat liver tissue lysates, Lane 6: mouse heart tissue lysates, Lane 7: mouse liver tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-NDST1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substratewith Tanon 5200 system. Western blot probed with anti-NDST1 shows a predominant band at ~70 kDa, lower than the predicted ~101 kDa, consistent with truncated or proteolytically processed forms of the Golgi-localized N-deacetylase/N-sulfotransferase 1.

Description

NDST1 antibody detects N-deacetylase/N-sulfotransferase 1, an essential enzyme involved in the biosynthesis of heparan sulfate, a glycosaminoglycan that modulates cell signaling, adhesion, and extracellular matrix organization. NDST1 catalyzes two critical reactions-N-deacetylation and N-sulfation of glucosamine residues-forming the sulfated domains that give heparan sulfate its functional specificity. The NDST1 antibody is widely used in glycobiology, developmental, and cancer research to study proteoglycan biosynthesis, cell-matrix interactions, and signaling regulation.

NDST1 is encoded by the NDST1 gene located on human chromosome 5q33.1. The protein is approximately 882 amino acids long and resides in the lumen of the Golgi apparatus, where it acts early in heparan sulfate chain modification. NDST1 belongs to the heparan sulfate modification enzyme family, working in concert with other sulfotransferases and epimerases to establish specific sulfation patterns that control the binding affinity of heparan sulfate to growth factors, morphogens, and cytokines.

The NDST1 antibody detects a 100 kilodalton band by western blot and demonstrates perinuclear Golgi localization under immunofluorescence microscopy. NDST1 activity is essential for embryonic development, vascular formation, and neural patterning. Through its modification of heparan sulfate, NDST1 regulates key signaling pathways including FGF, Wnt, Hedgehog, and BMP. Loss or mutation of NDST1 disrupts heparan sulfate composition, leading to developmental abnormalities and impaired growth factor signaling.

In cancer, NDST1 expression is often dysregulated, resulting in altered extracellular matrix structure and aberrant cell signaling. Overexpression enhances tumor invasiveness by modifying cell-surface heparan sulfate, while reduced NDST1 activity interferes with angiogenesis. It also contributes to inflammation by modulating chemokine gradients and leukocyte migration.

Because NDST1 determines the sulfation code of heparan sulfate, it serves as a critical regulator of cell communication and extracellular architecture. NSJ Bioreagents provides a validated NDST1 antibody optimized for its applications, supporting investigations into glycosaminoglycan biosynthesis, developmental regulation, and tumor microenvironment signaling.

Application Notes

Optimal dilution of the NDST1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human NDST1 recombinant protein (Position: 40-87) was used as the immunogen for the NDST1 antibody.

Storage

After reconstitution, the NDST1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.