

NANP (T-16): sc-98025

BACKGROUND

Sialic acids are a family of 9-carbon 2-keto-3-deoxy sugars that are found on the ends of glycoproteins and glycolipids and play important roles in recognition events within the cell. Playing an important role in cell-cell and protein-protein recognition, N-acetylneuraminic acid is the main form of sialic acid in vertebrates. NANP (N-acetylneuraminic acid-9-phosphatase), also known as HDHD4 (haloacid dehalogenase-like hydrolase domain-containing protein 4), is a 248 amino acid protein that belongs to the haloacid dehalogenase (HAD) family and is responsible for dephosphorylating Neu5Ac-9-phosphate to form N-acetylneuraminic acid. Characteristic of the HAD phosphatase family, the catalytic activity of NANP is dependent upon the presence of magnesium and is inhibited by vanadate and calcium.

REFERENCES

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2. Lawrence, S.M., et al. 2000. Cloning and expression of the human N-acetylneuraminic acid phosphate synthase gene with 2-keto-3-deoxy-D-glycero-D-galacto-nononic acid biosynthetic ability. *J. Biol. Chem.* 275: 17869-17877.
3. Chen, H., et al. 2002. Purification and characterization of N-acetylneuraminic acid-9-phosphate synthase from rat liver. *Glycobiology* 12: 65-71.
4. Hao, J., et al. 2005. Cloning, expression, and characterization of sialic acid synthases. *Biochem. Biophys. Res. Commun.* 338: 1507-1514.
5. Hao, J., et al. 2006. Elimination of 2-keto-3-deoxy-D-glycero-D-galactono-ulosonic acid 9-phosphate synthase activity from human N-acetylneuraminic acid 9-phosphate synthase by a single mutation. *Biochem. J.* 397: 195-201.
6. Glasner, M.E., et al. 2006. Evolution of enzyme superfamilies. *Curr. Opin. Chem. Biol.* 10: 492-497.
7. Maliekal, P., et al. 2006. Identification of the sequence encoding N-acetylneuraminic acid-9-phosphate phosphatase. *Glycobiology* 16: 165-172.

CHROMOSOMAL LOCATION

Genetic locus: NANP (human) mapping to 20p11.21.

SOURCE

NANP (T-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of NANP of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-98025 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NANP (T-16) is recommended for detection of NANP of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NANP (T-16) is also recommended for detection of NANP in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NANP siRNA (h): sc-75870, NANP shRNA Plasmid (h): sc-75870-SH and NANP shRNA (h) Lentiviral Particles: sc-75870-V.

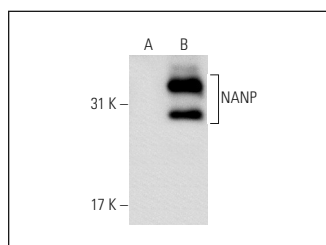
Molecular Weight of NANP: 30 kDa.

Positive Controls: NANP (h): 293T Lysate: sc-177597.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



NANP (T-16): sc-98025. Western blot analysis of NANP expression in non-transfected: sc-117752 (A) and human NANP transfected: sc-177597 (B) 293T whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.