SANTA CRUZ BIOTECHNOLOGY, INC.

NANP (P-17): sc-98024

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-acetylneuraminate is the main form of sialic acid in vertebrates. NANP (N-acylneuraminate-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-acetylneuraminate. 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

1. Van Rinsum, J., et al. 1984. Subcellular localization and tissue distribution of sialic acid-forming enzymes. N-acetylneuraminate-9-phosphate synthase and N-acetylneuraminate 9-phosphatase. Biochem. J. 223: 323-328.
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-galacto-nonulosonic 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.

CHROMOSOMAL LOCATION

Genetic locus: NANP (human) mapping to 20p11.21; Nanp (mouse) mapping to 2 G3.

SOURCE

NANP (P-17) 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-98024 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

NANP (P-17) is recommended for detection of NANP of mouse, rat and 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 (P-17) is also recommended for detection of NANP in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for NANP siRNA (h): sc-75870, NANP siRNA (m): sc-149821, NANP shRNA Plasmid (h): sc-75870-SH, NANP shRNA Plasmid (m): sc-149821-SH, NANP shRNA (h) Lentiviral Particles: sc-75870-V and NANP shRNA (m) Lentiviral Particles: sc-149821-V.

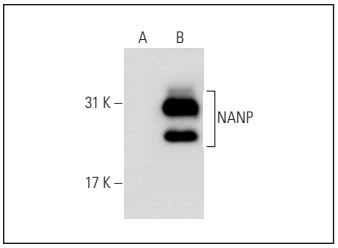
Molecular Weight of NANP: 30 kDa.

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 (P-17): sc-98024. 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.