

NANP (D-8): sc-374637



The Power to Question

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

1. Van Rinsum, J., et al. 1984. Subcellular localization and tissue distribution of sialic acid-forming enzymes. N-acetylneuraminic acid-9-phosphate synthase and N-acetylneuraminic acid-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. 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 (D-8) is a mouse monoclonal antibody raised against amino acids 42-93 mapping within an internal region of NANP of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NANP (D-8) is available conjugated to agarose (sc-374637 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374637 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374637 PE), fluorescein (sc-374637 FITC), Alexa Fluor® 488 (sc-374637 AF488), Alexa Fluor® 546 (sc-374637 AF546), Alexa Fluor® 594 (sc-374637 AF594) or Alexa Fluor® 647 (sc-374637 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374637 AF680) or Alexa Fluor® 790 (sc-374637 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

NANP (D-8) is recommended for detection of NANP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

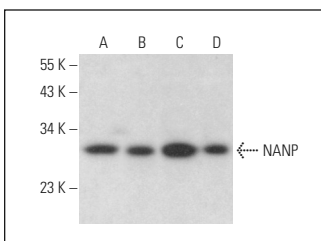
Molecular Weight of NANP: 30 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, IMR-32 cell lysate: sc-2409 or F9 cell lysate: sc-2245.

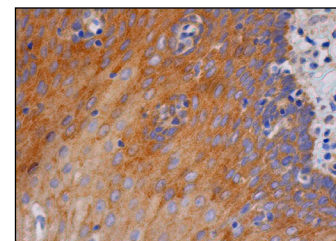
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



NANP (D-8): sc-374637. Western blot analysis of NANP expression in SH-SY5Y (A), SK-N-SH (B), IMR-32 (C) and F9 (D) whole cell lysates.



NANP (D-8): sc-374637. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

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.