

NANS (H-300): sc-135314

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. NANS (N-acetylneuraminic acid synthase), also known as SAS, is a 359 amino acid protein that contains one AFP (antifreeze proteins)-like domain and functions in the biosynthesis of sialic acids. Expressed ubiquitously, NANS enzymatically catalyzes the H₂O-dependent formation of N-acetylneuraminic acid (Neu5Ac) and 2-keto-3-deoxy-D-glycero-D-galacto-nononic acid (KDN), both of which are sialic acids. NANS uses N-acetylmannosamine 6-phosphate as a substrate for Neu5Ac synthesis and mannose 6-phosphate as a substrate for KDN synthesis. Human NANS shares 36% identity with the *E. coli* protein neuB, suggesting a conserved function between species.

REFERENCES

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3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605202. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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5. Hamada, T., Ito, Y., Abe, T., Hayashi, F., Güntert, P., Inoue, M., Kigawa, T., Terada, T., Shirouzu, M., Yoshida, M., Tanaka, A., Sugano, S., Yokoyama, S. and Hirota, H. 2006. Solution structure of the antifreeze-like domain of human sialic acid synthase. *Protein Sci.* 15: 1010-1016.

CHROMOSOMAL LOCATION

Genetic locus: NANS (human) mapping to 9q22.33; Nans (mouse) mapping to 4 B1.

SOURCE

NANS (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of NANS of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

NANS (H-300) is recommended for detection of NANS 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).

NANS (H-300) is also recommended for detection of NANS in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for NANS siRNA (h): sc-92845, NANS siRNA (m): sc-149822, NANS shRNA Plasmid (h): sc-92845-SH, NANS shRNA Plasmid (m): sc-149822-SH, NANS shRNA (h) Lentiviral Particles: sc-92845-V and NANS shRNA (m) Lentiviral Particles: sc-149822-V.

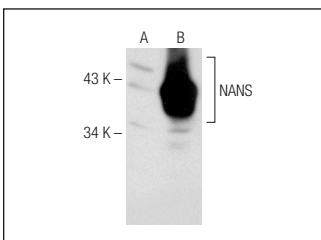
Molecular Weight of NANS: 40 kDa.

Positive Controls: NANS (m): 293T Lysate: sc-125684 or HeLa whole cell lysate: sc-2200.

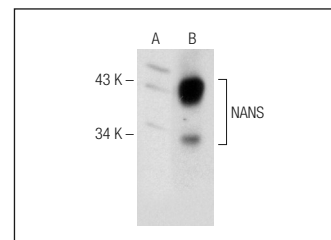
RECOMMENDED SECONDARY REAGENTS

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



NANS (H-300): sc-135314. Western blot analysis of NANS expression in non-transfected: sc-117752 (A) and mouse NANS transfected: sc-125684 (B) 293T whole cell lysates.



NANS (H-300): sc-135314. Western blot analysis of NANS expression in non-transfected: sc-117752 (A) and mouse NANS transfected: sc-125685 (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.