SANTA CRUZ BIOTECHNOLOGY, INC.

NANS (3D7): sc-100484

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 (anti-freeze proteins)-like domain and functions in the biosynthesis of sialic acids. Expressed ubiquitously, NANS enzymatically catalyzes the H_2O-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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4. Hao, J., Balagurumoorthy, P., Sarilla, S. and Sundaramoorthy, M. 2005. Cloning, expression, and characterization of sialic acid synthases. Biochem. Biophys. Res. Commun. 338: 1507-1514.
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.

SOURCE

NANS (3D7) is a mouse monoclonal antibody raised against recombinant NANS of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

NANS (3D7) is recommended for detection of NANS 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

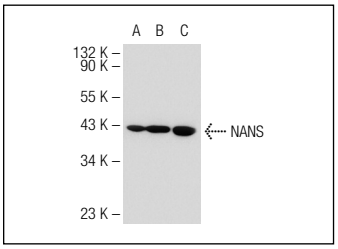
Molecular Weight of NANS: 40 kDa.

Positive Controls: NANS (h2): 293T Lysate: sc-170911 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-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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).

DATA



NANS (3D7): sc-100484. Western blot analysis of NANS expression in non-transfected 293T: sc-117752 (**A**), human NANS transfected 293T: sc-170911 (**B**) and HeLa (**C**) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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