

NADSYN1 (S-15): sc-168703

BACKGROUND

NAD (nicotinamide adenine dinucleotide) is a cofactor that participates in a wide variety of functions, including metabolic redox reactions, cell signaling events and posttranslational protein modifications. The synthesis of NAD within the cell is dependent upon a number of enzymes, called NAD synthetases, that work in concert to catalyze the reactions that form NAD. NADSYN1 (NAD synthetase 1) is a 706 amino acid protein that contains one CN (carbon-nitrogen) hydrolase domain and is a member of the NAD synthetase family. Expressed at high levels in testis, kidney, liver and small intestine, NADSYN1 catalyzes the ATP-dependent conversion of deamido-NAD⁺ to free NAD⁺. NADSYN1 exists as a homohexamer that uses both ammonia and glutamate as amide donors. NADSYN1 is present in human promyelocytic leukemia and glioma cell lines, suggesting a possible role in tumor formation.

REFERENCES

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3. Jauch, R., Humm, A., Huber, R. and Wahl, M.C. 2005. Structures of *Escherichia coli* NAD synthetase with substrates and products reveal mechanistic rearrangements. *J. Biol. Chem.* 280: 15131-15140.
4. Bellinzoni, M., Buroni, S., Pasca, M.R., Guglierame, P., Arcesi, F., De Rossi, E. and Riccardi, G. 2005. Glutamine amidotransferase activity of NAD⁺ synthetase from *Mycobacterium tuberculosis* depends on an amino-terminal nitrilase domain. *Res. Microbiol.* 156: 173-177.
5. Wojcik, M., Seidle, H.F., Bieganowski, P. and Brenner, C. 2006. Glutamine-dependent NAD⁺ synthetase. How a two-domain, three-substrate enzyme avoids waste. *J. Biol. Chem.* 281: 33395-33402.

CHROMOSOMAL LOCATION

Genetic locus: NADSYN1 (human) mapping to 11q13.4; Nadsyn1 (mouse) mapping to 7 F5.

SOURCE

NADSYN1 (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NADSYN1 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.

Blocking peptide available for competition studies, sc-168703 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

NADSYN1 (S-15) is recommended for detection of NADSYN1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for NADSYN1 siRNA (h): sc-96594, NADSYN1 siRNA (m): sc-149797, NADSYN1 shRNA Plasmid (h): sc-96594-SH, NADSYN1 shRNA Plasmid (m): sc-149797-SH, NADSYN1 shRNA (h) Lentiviral Particles: sc-96594-V and NADSYN1 shRNA (m) Lentiviral Particles: sc-149797-V.

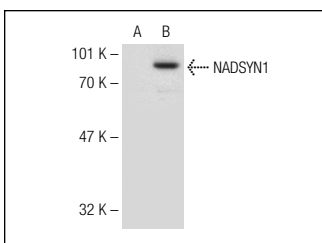
Molecular Weight of NADSYN1: 80 kDa.

Positive Controls: NADSYN1 (m): 293T Lysate: sc-127189, HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



NADSYN1 (S-15): sc-168703. Western blot analysis of NADSYN1 expression in non-transfected: sc-117752 (A) and mouse NADSYN1 transfected: sc-127189 (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.

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Try **NADSYN1 (3E3): sc-100485**, our highly recommended monoclonal alternative to NADSYN1 (S-15).