

NADSYN1 (3E3): sc-100485

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.
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CHROMOSOMAL LOCATION

Genetic locus: NADSYN1 (human) mapping to 11q13.4.

SOURCE

NADSYN1 (3E3) is a mouse monoclonal antibody raised against recombinant NADSYN1 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of 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

NADSYN1 (3E3) is recommended for detection of NADSYN1 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 NADSYN1 siRNA (h): sc-96594, NADSYN1 shRNA Plasmid (h): sc-96594-SH and NADSYN1 shRNA (h) Lentiviral Particles: sc-96594-V.

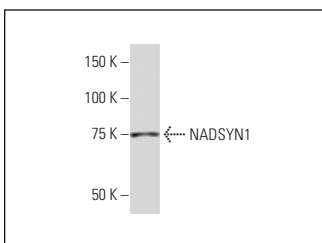
Molecular Weight of NADSYN1: 80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

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).

DATA



NADSYN1 (3E3): sc-100485. Western blot analysis of NADSYN1 expression in HeLa nuclear extract.

RESEARCH USE

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

PROTOCOLS

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