SANTA CRUZ BIOTECHNOLOGY, INC.

NMNAT-3 (B-9): sc-398848

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NMNAT proteins are essential cofactors involved in the fundamental processes of cell metabolism. They belong to the eukaryotic NMN adenylyltransferase family. NMNATs participate in the synthesis of NAD^+ by catalyzing the condensation of nicotinamide mononucleotide and ATP. The presence of magnesium and other divalent cations increases their enzymatic activity. The interaction of NMNATs with nuclear proteins is likely to be modulated by phosphorylation. NMNAT proteins contain at least three potential phosphorylation sites and may act as substrates for nuclear kinases. NMNAT-3 (nicotinamide mononucleotide adenylyltransferase 3), also designated PNAT3, is a 252 amino acid protein that localizes to the mitochrondria. Highly expressed in the spleen and lungs, NMNAT-3 is able to form homotetramers. Two isoforms exist due to alternative splicing events.

REFERENCES

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3. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608702. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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5. Mulligan, M.K., Ponomarev, I., Hitzemann, R.J., Belknap, J.K., Tabakoff, B., Harris, R.A., Crabbe, J.C., Blednov, Y.A., Grahame, N.J., Phillips, T.J., Finn, D.A., Hoffman, P.L., Iyer, V.R., Koob, G.F. and Bergeson, S.E. 2006. Toward understanding the genetics of alcohol drinking through transcriptome meta-analysis. Proc. Natl. Acad. Sci. USA 103: 6368-6373.
6. Berger, F., Lau, C. and Ziegler, M. 2007. Regulation of poly(ADP-ribose) polymerase 1 activity by the phosphorylation state of the nuclear NAD biosynthetic enzyme NMN adenylyl transferase 1. Proc. Natl. Acad. Sci. USA 104: 3765-3770.

CHROMOSOMAL LOCATION

Genetic locus: Nmnat3 (mouse) mapping to 9 E3.3.

SOURCE

NMNAT-3 (B-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 159-187 within an internal region of NMNAT-3 of mouse origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398848 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

NMNAT-3 (B-9) is recommended for detection of NMNAT-3 of mouse 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NMNAT-3 siRNA (m): sc-62696, NMNAT-3 shRNA Plasmid (m): sc-62696-SH and NMNAT-3 shRNA (m) Lentiviral Particles: sc-62696-V.

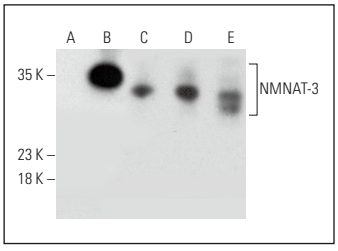
Molecular Weight of NMNAT-3: 28 kDa.

Positive Controls: NMNAT-3 (m): 293T Lysate: sc-122083, mouse spleen extract: sc-2391 or mouse heart extract: sc-2254.

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.

DATA



NMNAT-3 (B-9): sc-398848. Western blot analysis of NMNAT-3 expression in non-transfected: sc-117752 (**A**) and mouse NMNAT-3 transfected: sc-122083 (**B**) 293T whole cell lysates and mouse heart (**C**), mouse lung (**D**) and mouse spleen (**E**) tissue extracts.

RESEARCH USE

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