

NMNAT-3 (C-14): sc-55865

BACKGROUND

NMNAT proteins are essential cofactors involved in the fundamental processes of cell metabolism. They belong to the eukaryotic NMN adenyltransferase 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 adenyltransferase-3), also designated PNAT3, is a 252 amino acid protein that localizes to the mitochondria. Highly expressed in the spleen and lungs, NMNAT-3 is able to form homotetramers. Two isoforms exist due to alternative splicing events.

REFERENCES

1. Sestini, S., et al. 2000. Enzyme activities leading to NAD synthesis in human lymphocytes. *Arch. Biochem. Biophys.* 379: 277-282.
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3. Berger, F., et al. 2005. Subcellular compartmentation and differential catalytic properties of the three human nicotinamide mononucleotide adenyltransferase isoforms. *J. Biol. Chem.* 280: 36334-36341.
4. Mulligan, M.K., et al. 2006. Toward understanding the genetics of alcohol drinking through transcriptome meta-analysis. *Proc. Natl. Acad. Sci. USA* 103: 6368-6373.
5. Berger, F., et al. 2007. Regulation of poly(ADP-ribose) polymerase 1 activity by the phosphorylation state of the nuclear NAD biosynthetic enzyme NMN adenyltransferase-1. *Proc. Natl. Acad. Sci. USA* 104: 3765-3770.
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CHROMOSOMAL LOCATION

Genetic locus: NMNAT3 (human) mapping to 3q23.

SOURCE

NMNAT-3 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of NMNAT-3 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-55865 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NMNAT-3 (C-14) is recommended for detection of NMNAT-3 of 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 NMNAT-3 siRNA (h): sc-62695, NMNAT-3 shRNA Plasmid (h): sc-62695-SH and NMNAT-3 shRNA (h) Lentiviral Particles: sc-62695-V.

Molecular Weight of NMNAT-3: 28 kDa.

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.

STORAGE

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

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.



Try **NMNAT-3 (D-10): sc-390433**, our highly recommended monoclonal alternative to NMNAT-3 (C-14).