SANTA CRUZ BIOTECHNOLOGY, INC.

NMNAT-1 (B-7): sc-271557

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Nicotinamide adenine dinucleotide (NMNAT) is an essential cofactor involved in fundamental processes in cell metabolism. NMNAT plays a key role in NAD^+ biosynthesis, catalyzing the condensation of nicotinamide mononucleotide and ATP, and yielding NAD^+ and pyrophosphate. NMNAT appears to be a substrate of nuclear kinases and contains at least three potential phosphorylation sites. The interaction of NMNAT with nuclear proteins is likely to be modulated by phosphorylation. NMNAT is widely expressed with highest levels in skeletal muscle, heart, liver and kidney.

CHROMOSOMAL LOCATION

Genetic locus: NMNAT1 (human) mapping to 1p36.22.

SOURCE

NMNAT-1 (B-7) is a mouse monoclonal antibody raised against amino acids 171-279 mapping at the C-terminus of NMNAT-1 of human origin.

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.

NMNAT-1 (B-7) is available conjugated to agarose (sc-271557 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271557 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271557 PE), fluorescein (sc-271557 FITC), Alexa Fluor® 488 (sc-271557 AF488), Alexa Fluor® 546 (sc-271557 AF546), Alexa Fluor® 594 (sc-271557 AF594) or Alexa Fluor® 647 (sc-271557 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271557 AF680) or Alexa Fluor® 790 (sc-271557 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

NMNAT-1 (B-7) is recommended for detection of NMNAT-1 of human 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), immunohistochemistry (including paraffin-embedded sections) (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-1 siRNA (h): sc-45502, NMNAT-1 shRNA Plasmid (h): sc-45502-SH and NMNAT-1 shRNA (h) Lentiviral Particles: sc-45502-V.

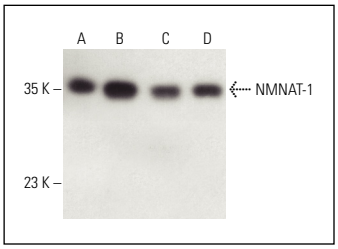
Molecular Weight of NMNAT-1: 33 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HeLa nuclear extract: sc-2120 or ACHN whole cell lysate: sc-364365.

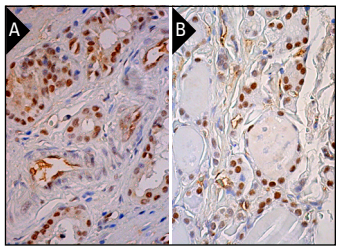
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



NMNAT-1 (B-7) HRP: sc-271557 HRP. Direct western blot analysis of NMNAT-1 expression in HeLa (**A**), C32 (**B**) and ACHN (**C**) whole cell lysates and HeLa nuclear extract (**D**).



NMNAT-1 (B-7): sc-271557. Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland (**A**) and human thyroid gland (**B**) tissue showing nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Henderson, D.J.P., et al. 2017. The β-NAD^+salvage pathway and PKC-mediated signaling influence localized PARP-1 activity and CTCF Poly(ADP)ribosylation. Oncotarget 8: 64698-64713.
2. Wang, X., et al. 2019. Subcellular NAMPT-mediated NAD^+ salvage pathways and their roles in bioenergetics and neuronal protection after ischemic injury. J. Neurochem. 151: 732-748.
3. Ruiz, P.D., et al. 2019. MacroH2A1 regulation of poly(ADP-ribose) synthesis and stability prevents necrosis and promotes DNA repair. Mol. Cell. Biol. 40: e00230-19.
4. Hung, S.W., et al. 2021. An in-silico, *in-vitro* and *in-vivo* combined approach to identify NMNATs as potential protein targets of ProEGCG for treatment of endometriosis. Front. Pharmacol. 12: 714790.
5. Liu, J., et al. 2021. NMNAT promotes glioma growth through regulating post-translational modifications of P53 to inhibit apoptosis. Elife 10: e70046.
6. Li, X., et al. 2022. NAD^+ anabolism disturbance causes glomerular mesangial cell injury in diabetic nephropathy. Int. J. Mol. Sci. 23: 3458.

RESEARCH USE

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