NAT-10 (B-4): sc-271770

BACKGROUND

NAT-10 (N-acetyltransferase 10) is a nuclear protein that belongs to the UPF0202 family. It has a single N-acetyltransferase domain that likely functions as a histone acetyltransferase. NAT-10 functions primarily to regulate the activity of telomerase. It is upregulated in response to DNA damage and is likely to take part in genotoxic resistance and DNA repair. NAT-10 has a high binding potential for the promoter region of TERT which stimulates the production of telomerase. These varieties of function imply that human telomerase complexes have multiple functions rather than specific duties.

CHROMOSOMAL LOCATION

Genetic locus: NAT10 (human) mapping to 11p13; Nat10 (mouse) mapping to 2 E2.

SOURCE

NAT-10 (B-4) is a mouse monoclonal antibody raised against amino acids 726-1025 mapping at the C-terminus of NAT-10 of human origin.

PRODUCT

Each vial contains 200 µg IgG$_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NAT-10 (B-4) is available conjugated to agarose (sc-271770 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271770 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271770 PE), fluorescein (sc-271770 FITC), Alexa Fluor® 488 (sc-271770 AF488), Alexa Fluor® 546 (sc-271770 AF546), Alexa Fluor® 594 (sc-271770 AF594) or Alexa Fluor® 647 (sc-271770 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271770 AF680) or Alexa Fluor® 790 (sc-271770 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NAT-10 (B-4) is recommended for detection of NAT-10 of mouse, rat and 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 NAT-10 siRNA (h): sc-62660, NAT-10 siRNA (m): sc-62661, NAT-10 shRNA Plasmid (h): sc-62660-SH, NAT-10 shRNA Plasmid (m): sc-62661-SH, NAT-10 shRNA (h) Lentiviral Particles: sc-62660-V and NAT-10 shRNA (m) Lentiviral Particles: sc-62661-V.

Molecular Weight of NAT-10: 116 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, MCF7 whole cell lysate: sc-2206 or Jurkat whole cell lysate: sc-2204.
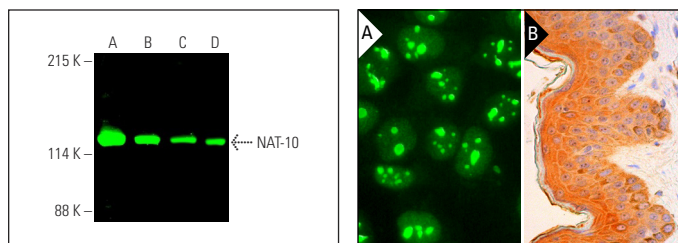
STORAGE

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.

DATA

NAT-10 (B-4): sc-271770. Near-Infrared western blot analysis of NAT-10 expression in Jurkat (**A**), MCF7 (**B**) and HEL 92.1.7 (**C**) whole cell lysates and HeLa nuclear extract (**D**). Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

NAT-10 (B-4): sc-271770. Immunofluorescence staining of formalin-fixed A-431 cells showing nucleolar and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing nucleolar and cytoplasmic staining of kerati-nocytes and cytoplasmic staining of melanocytes (**B**).

SELECT PRODUCT CITATIONS

1. DeBoer, J., et al. 2014. Alterations in the nuclear proteome of HIV-1 infected T-cells. Virology 468-470: 409-420.

2. Ito, S., et al. 2014. Human NAT-10 is an ATP-dependent RNA acetyltransferase responsible for N^4-acetylcytidine formation in 18 S ribosomal RNA (rRNA). J. Biol. Chem. 289: 35724-35730.

3. Bammert, L., et al. 2016. Human AATF/Che-1 forms a nucleolar protein complex with NGDN and NOL10 required for 40S ribosomal subunit synthesis. Nucleic Acids Res. 44: 9803-9820.

4. Zhang, Z.X., et al. 2018. CREB promotes laryngeal cancer cell migration via MYCT1/NAT-10 axis. Onco Targets Ther. 11: 1323-1331.

5. Wu, Y., et al. 2020. Remodelin, an inhibitor of NAT-10, could suppress hypoxia-induced or constitutional expression of HIFs in cells. Mol. Cell. Biochem. 472: 19-31.

6. He, A., et al. 2022. Screening of differentially expressed proteins in placentas from patients with late-onset preeclampsia. Proteomics Clin. Appl. 16: e2100053.

7. Feng, Z., et al. 2022. The LINC00623/NAT10 signaling axis promotes pancreatic cancer progression by remodeling ac4C modification of mRNA. J. Hematol. Oncol. 15: 112.

PROTOCOLS

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

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