SANTA CRUZ BIOTECHNOLOGY, INC.

NTAL (NAP-03): sc-51685

BACKGROUND

Non-T cell activation linker (NTAL), a transmembrane adaptor protein, is also designated membrane-associated adapter molecule, Williams-Beuren syndrome chromosome region 15 protein or LAB (linker of activated B cells). NTAL is present in membrane microdomains (rafts) of B cells, NK cells and myeloid cells, and in monocytes and mast cells, but not in resting T lymphocytes. NTAL becomes rapidly tyrosine-phosphorylated upon cross-linking of the B cell receptor (BCR) or of high-affinity Fc γ and Fc ε receptors of myeloid cells and then associates with the cytoplasmic signaling molecules. NTAL is highly expressed in spleen, lymph node germinal centers and peripheral blood lymphocytes. Defects in the gene encoding for NTAL may cause the musculoskeletal and cardiovascular abnormalities that characterize the rare developmental disorder Williams-Beuren syndrome (WBS).

REFERENCES

1. Martindale, D.W., Wilson, M.D., Wang, D., Burke, R.D., Chen, X., Duronio, V. and Koop, B.F. 2000. Comparative genomic sequence analysis of the Williams syndrome region (LIMK1-RFC2) of human chromosome 7q11.23. Mamm. Genome 11: 890-898.
2. Janssen, E., Zhu, M., Zhang, W., Koonpaew, S. and Zhang, W. 2003. LAB: a new membrane-associated adaptor molecule in B cell activation. Nat. Immunol. 4: 117-123.
3. Tkaczyk, C., Horejsi, V., Iwaki, S., Draber, P., Samelson, L.E., Satterthwaite, A.B., Nahm, D.H., Metcalfe, D.D. and Gilfillan, A.M. 2004. NTAL phosphorylation is a pivotal link between the signaling cascades leading to human mast cell degranulation following Kit activation and Fc ε RI aggregation. Blood 104: 207-214.
4. Koonpaew, S., Janssen, E., Zhu, M. and Zhang, W. 2004. The importance of three membrane-distal tyrosines in the adaptor protein NTAL/LAB. J. Biol. Chem. 279: 11229-11235.
5. Tedoldi, S., Paterson, J.C., Hansmann, M.L., Natkunam, Y., Rüdiger, T., Angelisova, P., Du, M.Q., Roberton, H., Roncador, G., Sanchez, L., Pozzobon, M., Masir, N., Barry, R., Pileri, S., Mason, D.Y., Marafioti, T. and Horejsí, V. 2005. Transmembrane adaptor molecules: a new category of lymphoid-cell markers. Blood 107: 213-221.

CHROMOSOMAL LOCATION

Genetic locus: LAT2 (human) mapping to 7q11.23.

SOURCE

NTAL (NAP-03) is a mouse monoclonal antibody raised against amino acids 196-212 of ATL of human origin.

STORAGE

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

PROTOCOLS

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

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

NTAL (NAP-03) is recommended for detection of NTAL of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for NTAL siRNA (h): sc-62703, NTAL shRNA Plasmid (h): sc-62703-SH and NTAL shRNA (h) Lentiviral Particles: sc-62703-V.

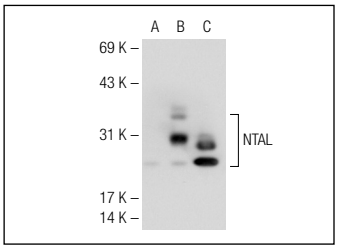
Molecular Weight of NTAL: 30 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, U-937 cell lysate: sc-2239 or NTAL (h): 293T Lysate: sc-177644.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



NTAL (NAP-03): sc-51685. Western blot analysis of NTAL expression in non-transfected 293T: sc-117752 (**A**), human NTAL transfected 293T: sc-177644 (**B**) and THP-1 (**C**) whole cell lysates.

RESEARCH USE

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