SANTA CRUZ BIOTECHNOLOGY, INC.

NTAL (D-10): sc-271000

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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., et al. 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., et al. 2003. LAB: a new membrane-associated adaptor molecule in B cell activation. Nat. Immunol. 4: 117-123.
3. Tkaczyk, C., et al. 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., et al. 2004. The importance of three membrane-distal tyrosines in the adaptor protein NTAL/LAB. J. Biol. Chem. 279: 11229-11235.

CHROMOSOMAL LOCATION

Genetic locus: Lat2 (mouse) mapping to 5 G2.

SOURCE

NTAL (D-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 60-100 within a cytoplasmic domain of NTAL of rat 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.

NTAL (D-10) is available conjugated to agarose (sc-271000 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271000 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271000 PE), fluorescein (sc-271000 FITC), Alexa Fluor® 488 (sc-271000 AF488), Alexa Fluor® 546 (sc-271000 AF546), Alexa Fluor® 594 (sc-271000 AF594) or Alexa Fluor® 647 (sc-271000 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271000 AF680) or Alexa Fluor® 790 (sc-271000 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271000 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

NTAL (D-10) is recommended for detection of NTAL of mouse and rat 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 NTAL siRNA (m): sc-62704, NTAL shRNA Plasmid (m): sc-62704-SH and NTAL shRNA (m) Lentiviral Particles: sc-62704-V.

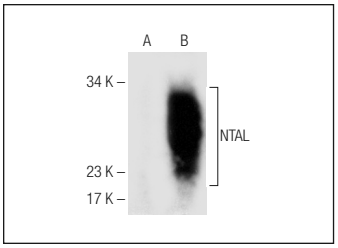
Molecular Weight of NTAL: 30 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211 or NTAL (m): 293T Lysate: sc-122140.

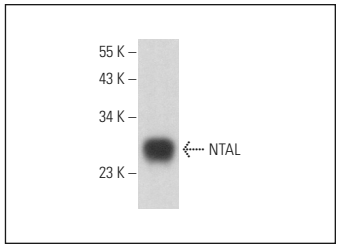
RECOMMENDED SUPPORT REAGENTS

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



NTAL (D-10): sc-271000. Western blot analysis of NTAL expression in non-transfected: sc-117752 (**A**) and mouse NTAL transfected: sc-122140 (**B**) 293T whole cell lysates.



NTAL (D-10): sc-271000. Western blot analysis of NTAL expression in RAW 264.7 whole cell lysate.

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 for detailed protocols and support products.