SANTA CRUZ BIOTECHNOLOGY, INC.

TIRAP (B-3): sc-166151

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mammalian Toll-like receptors (TLRs) recognize conserved products of microbial metabolism and activate NFκB and other signaling pathways through the adapter protein MyD88. MyD88 functions as an adapter protein in the association of IL-1 receptor associated kinase (IRAK) with the IL-1 receptor. MyD88 contains a characteristic N-terminal death domain, which is essential for NFκB activation and an adjacent Toll/Il-1R homology domain (TIR domain), which is responsible for signal transduction. TIR domain-containing adapter protein (TIRAP), also designated MAL (MyD88 adapter-like), wyatt or TLR-4 adaptor protein, is a cytoplasmic TIR-domain-containing protein that activates NFκB, Jun N-terminal kinase and extracellular signal-regulated kinase-1 and -2. TIRAP forms homodimers and heterodimers with MyD88. IRAK-2, but not IRAK, is required for the activation of NFκB by TIRAP which associates with IRAK-2 through the TIR domain. In addition, TIRAP associates with TLR-4, suggesting that it plays a role in TLR-4 signal transduction.

REFERENCES

1. Medzhitov, R., et al. 1998. MyD88 is an adaptor protein in the hToll/IL-1 receptor family signaling pathways. Mol. Cell 2: 253-258.
2. Burns, K., et al. 1998. MyD88, an adaptor protein involved in interleukin-1 signaling. J. Biol. Chem. 273: 12203-12209.
3. Chow, J.C., et al. 1999. Toll-like receptor-4 mediates lipopolysaccharide-induced signal transduction. J. Biol. Chem. 274: 10689-10692.
4. Means, T.K., et al. 2000. The biology of Toll-like receptors. Cytokine Growth Factor Rev. 11: 219-232.
5. Horng, T., et al. 2001. TIRAP: an adapter molecule in the Toll signaling pathway. Nat. Immunol. 2: 835-841.
6. Fitzgerald, K.A., et al. 2001. Mal (MyD88-adapter-like) is required for Toll-like receptor-4 signal transduction. Nature 413: 78-83.

CHROMOSOMAL LOCATION

Genetic locus: TIRAP (human) mapping to 11q24.2.

SOURCE

TIRAP (B-3) is a mouse monoclonal antibody raised against amino acids 1-235 representing full length TIRAP 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.

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 for detailed protocols and support products.

APPLICATIONS

TIRAP (B-3) is recommended for detection of TIRAP 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TIRAP siRNA (h): sc-42932, TIRAP shRNA Plasmid (h): sc-42932-SH and TIRAP shRNA (h) Lentiviral Particles: sc-42932-V.

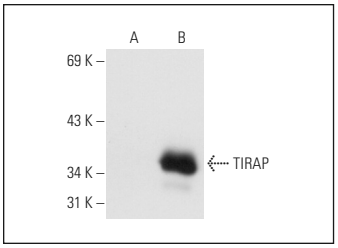
Molecular Weight of TIRAP: 36 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, ES-2 cell lysate: sc-24674 or TIRAP (h): 293T Lysate: sc-114950.

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



TIRAP (B-3): sc-166151. Western blot analysis of TIRAP expression in non-transfected: sc-117752 (**A**) and human TIRAP transfected: sc-114950 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Israel, L., et al. 2017. Human adaptive immunity rescues an inborn error of innate immunity. Cell 168: 789-800.

RESEARCH USE

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