SANTA CRUZ BIOTECHNOLOGY, INC.

TIRAP (C-19): sc-19952

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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 lipo-polysaccharide-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. Fitzgerald, K.A., et al. 2001. Mal (MyD88-adapter-like) is required for Toll-like receptor-4 signal transduction. Nature 413: 78-83.
6. Horng, T., et al. 2001. TIRAP: an adapter molecule in the Toll signaling pathway. Nat. Immunol. 2: 835-841.

CHROMOSOMAL LOCATION

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

SOURCE

TIRAP (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of TIRAP isoform b of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19952 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

TIRAP (C-19) is recommended for detection of TIRAP of human origin by Western Blotting (starting dilution 1:200, 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.

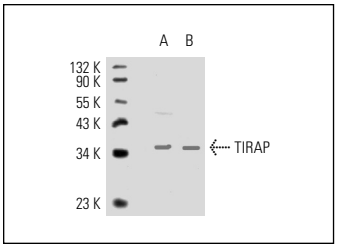
Molecular Weight of TIRAP: 36 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, HeLa whole cell lysate: sc-2200 or ES-2 cell lysate: sc-24674.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TIRAP (C-19): sc-19952. Western blot analysis of TIRAP expression in ES-2 (**A**) and Caki-1 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ijpenberg, A., et al. 2007. Wt1 and retinoic acid signaling are essential for stellate cell development and liver morphogenesis. Dev. Biol. 312: 157-170.