SANTA CRUZ BIOTECHNOLOGY, INC.

TRAP-β (AT31G6): sc-517428

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The TRAP proteins (translocon-associated proteins), TRAP-α, TRAP-β, TRAP-γ and TRAP-δ, are transmembrane proteins that comprise a heterotetramer complex (the signal sequence receptor (SSR) or TRAP complex) that localizes to the endoplasmic reticulum (ER) and functions in regulating the retention of ER resident proteins. The TRAP complex associates with the Sec61 translocon at the ER. Sec61 is the major complex mediating protein translocation across the ER membrane. In addition, the TRAP complex is involved in ER-associated degradation (ERAD); in response to ER stress the TRAP complex subunits are simultaneously induced by the XBP-1/IRE1α pathway. TRAP-α (also known as SSR1 or SSR-α), TRAP-β (also known as SSR-β, SSR2 or TLAP) and TRAP-δ (also known as SSR4) are all single-pass membrane proteins, while TRAP-γ (also known as SSR3 or SSR-γ) contains four transmembrane domains.

REFERENCES

1. Hartmann, E., et al. 1993. A tetrameric complex of membrane proteins in the endoplasmic reticulum. Eur. J. Biochem. 214: 375-381.
2. Brenner, V., et al. 1997. Genomic organization of two novel genes on human Xq28: compact head to head arrangement of IDH γ and TRAP δ is conserved in rat and mouse. Genomics 44: 8-14.
3. Wang, L. and Dobberstein, B. 1999. Oligomeric complexes involved in translocation of proteins across the membrane of the endoplasmic reticulum. FEBS Lett. 457: 316-322.
4. Mangos, S., et al. 2000. The translocon-associated protein β (TRAPβ) in zebrafish embryogenesis. I. Enhanced expression of transcripts in notochord and hatching gland precursors. Mol. Cell. Biochem. 215: 93-101.
5. Fons, R.D., et al. 2003. Substrate-specific function of the translocon-associated protein complex during translocation across the ER membrane. J. Cell Biol. 160: 529-539.
6. Wang, Z. and VandeBerg, J.L. 2004. Cloning and molecular characterization of a human ortholog of Monodelphis TRAPD in ultraviolet B-induced melanoma. Melanoma Res. 14: 107-114.
7. Ménétret, J.F., et al. 2005. Architecture of the ribosome-channel complex derived from native membranes. J. Mol. Biol. 348: 445-457.
8. Mesbah, K., et al. 2006. Mutation in the Trapα/Ssr1 gene, encoding translocon-associated protein α, results in outflow tract morphogenetic defects. Mol. Cell. Biol. 26: 7760-7771.

CHROMOSOMAL LOCATION

Genetic locus: SSR2 (human) mapping to 1q22; Ssr2 (mouse) mapping to 3 F1.

SOURCE

TRAP-β (AT31G6) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 18-149 of TRAP-β of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide, 1% glycerol and 0.1% gelatin.

APPLICATIONS

TRAP-β (AT31G6) is recommended for detection of TRAP-β of mouse, rat and 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TRAP-β siRNA (h): sc-63147, TRAP-β siRNA (m): sc-63150, TRAP-β shRNA Plasmid (h): sc-63147-SH, TRAP-β shRNA Plasmid (m): sc-63150-SH, TRAP-β shRNA (h) Lentiviral Particles: sc-63147-V and TRAP-β shRNA (m) Lentiviral Particles: sc-63150-V.

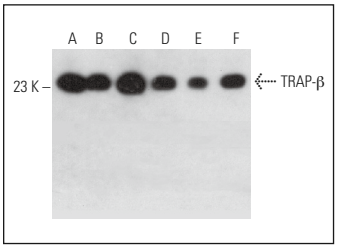
Molecular Weight of TRAP-β: 20 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226, NCI-H929 whole cell lysate: sc-364786 or F9 cell lysate: sc-2245.

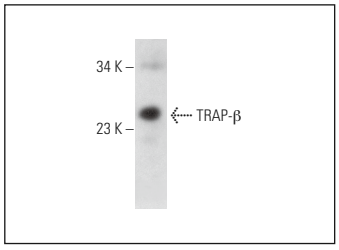
RECOMMENDED SUPPORT REAGENTS

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



TRAP-β (AT31G6): sc-517428. Western blot analysis of TRAP-β expression in COLO 320DM (**A**), Hs 181 Tes (**B**), NCI-H929 (**C**), WI-38 (**D**), F9 (**E**) and AMJ2-C8 (**F**) whole cell lysates.



TRAP-β (AT31G6): sc-517428. Western blot analysis of TRAP-β expression in C6 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.