SANTA CRUZ BIOTECHNOLOGY, INC.

TRAP-δ (A-14): sc-54412

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., Görlich, D., Kostka, S., Otto, A., Kraft, R., Knespel, S., Bürger, E., Rapoport, T.A. and Prehn, S. 1993. A tetrameric complex of membrane proteins in the endoplasmic reticulum. Eur. J. Biochem. 214: 375-381.
2. Brenner, V., Nyakatura, G., Rosenthal, A. and Platzer, M. 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., Krawetz, R. and Kelly, G.M. 2000. The translocon-associated protein β (TRAP-β) in zebrafish embryogenesis. I. Enhanced expression of transcripts in notochord and hatching gland precursors. Mol. Cell. Biochem. 215: 93-101.
5. Fons, R.D., Bogert, B.A. and Hegde, R.S. 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* TRAP-δ in ultraviolet B-induced melanoma. Melanoma Res. 14: 107-114.
7. Menetret, J.F., Hegde, R.S., Heinrich, S.U., Chandramouli, P., Ludtke, S.J., Rapoport, T.A. and Akey, C.W. 2005. Architecture of the ribosome-channel complex derived from native membranes. J. Mol. Biol. 348: 445-457.
8. Mesbah, K., Camus, A., Babinet, C. and Barra, J. 2006. Mutation in the TRAP-α/Ssr1 gene, encoding translocon-associated protein α, results in outflow tract morphogenetic defects. Mol. Cell. Biol. 26: 7760-7771.
9. Nagasawa, K., Higashi, T., Hosokawa, N., Kaufman, R.J. and Nagata, K. 2007. Simultaneous induction of the four subunits of the TRAP complex by ER stress accelerates ER degradation. EMBO Rep. 8: 483-489.

CHROMOSOMAL LOCATION

Genetic locus: SSR4 (human) mapping to Xq28; Ssr4 (mouse) mapping to X A7.3.

SOURCE

TRAP-δ (A-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within the lumenal domain of TRAP-δ 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-54412 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TRAP-δ (A-14) is recommended for detection of TRAP-δ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

TRAP-δ (A-14) is also recommended for detection of TRAP-δ in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TRAP-δ siRNA (h): sc-63148, TRAP-δ siRNA (m): sc-63151, TRAP-δ shRNA Plasmid (h): sc-63148-SH, TRAP-δ shRNA Plasmid (m): sc-63151-SH, TRAP-δ shRNA (h) Lentiviral Particles: sc-63148-V and TRAP-δ shRNA (m) Lentiviral Particles: sc-63151-V.

Molecular Weight of TRAP-δ: 19 kDa.

Positive Controls: C32 whole cell lysate: sc-2205.

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) 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.

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.