

# TRAP- $\beta$ (D-15): sc-54415

## BACKGROUND

The TRAP proteins (translocon-associated proteins), TRAP- $\alpha$ , TRAP- $\beta$ , TRAP- $\gamma$  and TRAP- $\delta$ , 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/IRE1 $\alpha$  pathway. TRAP- $\alpha$  (also known as SSR1 or SSR- $\alpha$ ), TRAP- $\beta$  (also known as SSR- $\beta$ , SSR2 or TLAP) and TRAP- $\delta$  (also known as SSR4) are all single-pass membrane proteins, while TRAP- $\gamma$  (also known as SSR3 or SSR- $\gamma$ ) contains four transmembrane domains.

## REFERENCES

- Hartmann, E., et al. 1993. A tetrameric complex of membrane proteins in the endoplasmic reticulum. *Eur. J. Biochem.* 214: 375-381.
- Brenner, V., et al. 1997. Genomic organization of two novel genes on human Xq28: compact head to head arrangement of IDH  $\gamma$  and TRAP- $\delta$  is conserved in rat and mouse. *Genomics* 44: 8-14.
- 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.
- Mangos, S., et al. 2000. The translocon-associated protein  $\beta$  (TRAP- $\beta$ ) in zebrafish embryogenesis. I. Enhanced expression of transcripts in notochord and hatching gland precursors. *Mol. Cell. Biochem.* 215: 93-101.
- 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.
- Wang, Z. and VandeBerg, J.L. 2004. Cloning and molecular characterization of a human ortholog of *Monodelphis* TRAP- $\delta$  in ultraviolet B-induced melanoma. *Melanoma Res.* 14: 107-114.
- Menetret, J.F., et al. 2005. Architecture of the ribosome-channel complex derived from native membranes. *J. Mol. Biol.* 348: 445-457.

## CHROMOSOMAL LOCATION

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

## SOURCE

TRAP- $\beta$  (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within the luminal domain of TRAP- $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54415 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TRAP- $\beta$  (D-15) is recommended for detection of TRAP- $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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- $\beta$  (D-15) is also recommended for detection of TRAP- $\beta$  in additional species, including equine, canine, bovine, porcine and avian.

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

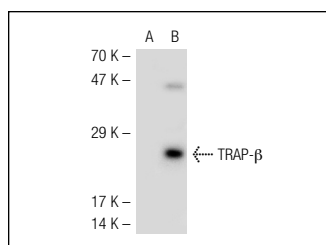
Molecular Weight of TRAP- $\beta$ : 20 kDa.

Positive Controls: TRAP- $\beta$  (m): 293T Lysate: sc-124262.

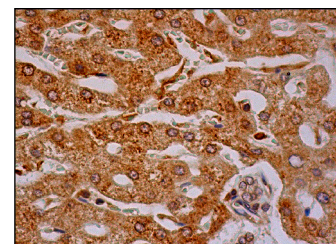
## RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



TRAP- $\beta$  (D-15): sc-54415. Western blot analysis of TRAP- $\beta$  expression in non-transfected: sc-117752 (A) and mouse TRAP- $\beta$  transfected: sc-124262 (B) 293T whole cell lysates.



TRAP- $\beta$  (D-15): sc-54415. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of Purkinje cells.

## 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.