SANTA CRUZ BIOTECHNOLOGY, INC.

PTPLB (C-15): sc-100104

BACKGROUND

PTPLB (protein tyrosine phosphatase-like (proline instead of catalytic arginine), member b) is a 254 amino acid multi-pass membrane protein that localizes to the endoplasmic reticulum. Highly expressed in testis, spleen, prostate, colon and heart, PTPLB is a member of the protein tyrosine phosphatase (PTP) family of proteins, which are known to be signaling molecules that regulate signal transduction pathways leading to cell growth, differentiation and oncogenic transformation. PTPs mediate the dephosphorylation of phosphotyrosine. PTPLB is a probable anti-phosphatase that interacts with BAP31, an integral membrane protein of the endoplasmic reticulum that operates as a chaperone or cargo receptor and regulator of apoptosis. PTPLB is encoded by a gene located on human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci.

REFERENCES

1. Krueger, N.X., et al. 1990. Structural diversity and evolution of human receptor-like protein tyrosine phosphatases. EMBO J. 9: 3241-3252.
2. den Hertog, J., et al. 1995. Stimulation of receptor protein-tyrosine phosphatase α activity and phosphorylation by phorbol ester. Cell Growth Diff. 6: 303-307.
3. Zondag, G.C., et al. 1995. Homophilic interactions mediated by receptor tyrosine phosphatases μ and κ. A critical role for the novel extracellular MAM domain. J. Biol. Chem. 270: 14247-14250.
4. Uwanogho, D.A., et al. 1999. Molecular cloning, chromosomal mapping, and developmental expression of a novel protein tyrosine phosphatase-like gene. Genomics 62: 406-416.
5. Li, D., et al. 2000. Human protein tyrosine phosphatase-like gene: expression profile, genomic structure, and mutation analysis in families with ARVD. Gene 256: 237-243.
6. Wang, B., et al. 2004. The yeast split-ubiquitin membrane protein two-hybrid screen identifies BAP31 as a regulator of the turnover of endoplasmic reticulum-associated protein tyrosine phosphatase-like B. Mol. Cell. Biol. 24: 2767-2778.
7. Tozlu-Kara, S., et al. 2007. Oligonucleotide microarray analysis of estrogen receptor α-positive postmenopausal breast carcinomas: identification of HRPAP20 and TIMELESS as outstanding candidate markers to predict the response to tamoxifen. J. Mol. Endocrinol. 39: 305-318.

CHROMOSOMAL LOCATION

Genetic locus: PTPLB (human) mapping to 3q21.1; Ptplb (mouse) mapping to 16 B3.

SOURCE

PTPLB (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PTPLB of human origin.

RESEARCH USE

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

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-100104 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PTPLB (C-15) is recommended for detection of PTPLB 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PTPLB (C-15) is also recommended for detection of PTPLB in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PTPLB siRNA (h): sc-77916, PTPLB siRNA (m): sc-152585, PTPLB shRNA Plasmid (h): sc-77916-SH, PTPLB shRNA Plasmid (m): sc-152585-SH, PTPLB shRNA (h) Lentiviral Particles: sc-77916-V and PTPLB shRNA (m) Lentiviral Particles: sc-152585-V.

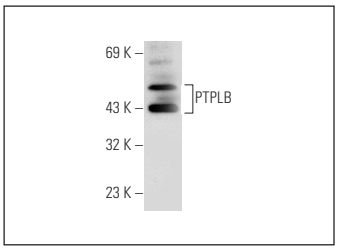
Molecular Weight of PTPLB: 28 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

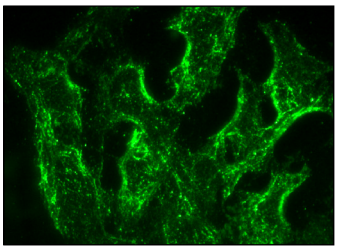
RECOMMENDED SECONDARY REAGENTS

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



PTPLB (C-15): sc-100104. Western blot analysis of PTPLB expression in Hep G2 whole cell lysate.



PTPLB (C-15): sc-100104. Immunofluorescence staining of formalin-fixed Hep G2 cells showing endoplasmic reticulum localization.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.