

PTPRCAP (T-20): sc-241652

BACKGROUND

Protein tyrosine phosphorylation influences cell responses including growth, proliferation, differentiation, migration, metabolism and survival. Tyrosine phosphorylation is a reversible process in balance with the activities of protein tyrosine kinases and protein tyrosine phosphatases (PTP). The PTP superfamily includes transmembrane receptor-like PTPs, cytosolic phosphotyrosine specific PTPs, Dual Specificity PTPs (DSP), and Multiple Specificity PTP (MSPs). PTPRCAP (protein tyrosine phosphatase, receptor type, C-associated protein), also designated LPAP or CD45-AP, is 206 amino acid single-pass membrane protein that specifically associated with CD45, a key regulator of T- and B-lymphocyte activation. PTPRCAP stabilizes the association of CD45 with sub in activating the oncogenic Src family kinases.

REFERENCES

- Schraven, B., et al. 1994. LPAP, a novel 32 kDa phosphoprotein that interacts with CD45 in human lymphocytes. *J. Biol. Chem.* 269: 29102-29111.
- Bruyns, E., et al. 1995. Identification of the sites of interaction between lymphocyte phosphatase-associated phosphoprotein (LPAP) and CD45. *J. Biol. Chem.* 270: 31372-31376.
- Fortin, M., et al. 2002. Apoptosis mediated through CD45 is independent of its phosphatase activity and association with leukocyte phosphatase-associated phosphoprotein. *J. Immunol.* 168: 6084-6089.
- Nicholas, R.S., et al. 2003. The role of the PTPRC (CD45) mutation in the development of multiple sclerosis in the North West region of the United Kingdom. *J. Neurol. Neurosurg. Psychiatr.* 74: 944-945.
- Takeda, A., et al. 2004. CD45-associated protein inhibits CD45 dimerization and upregulates its protein tyrosine phosphatase activity. *Blood* 103: 3440-3447.
- Cocco, E., et al. 2004. PTPRC (CD45) C77G mutation does not contribute to multiple sclerosis susceptibility in Sardinian patients. *J. Neurol.* 251: 1085-1088.
- Maljaei, S.H., et al. 2005. Usefulness of CD45 density in the diagnosis of B cell chronic lymphoproliferative disorders. *Indian J. Med. Sci.* 59: 187-194.
- Leitenberg, D., et al. 2007. CD45-associated protein promotes the response of primary CD4 T cells to low-potency T cell receptor (TCR) stimulation and facilitates CD45 association with CD3/TCR and Lck. *Immunology* 121: 545-554.

CHROMOSOMAL LOCATION

Genetic locus: Ptprcap (mouse) mapping to 19 A.

SOURCE

PTPRCAP (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PTPRCAP of mouse origin.

STORAGE

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

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-241652 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PTPRCAP (T-20) is recommended for detection of PTPRCAP of mouse and rat 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 PTPRCAP siRNA (m): sc-152587, PTPRCAP shRNA Plasmid (m): sc-152587-SH and PTPRCAP shRNA (m) Lentiviral Particles: sc-152587-V.

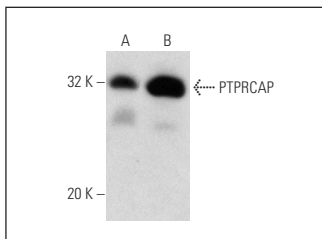
Molecular Weight of PTPRCAP: 32 kDa.

Positive Controls: CTLL-2 cell lysate: sc-2242 or TK-1 whole cell lysate: sc-364798.

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



PTPRCAP (T-20): sc-241652. Western blot analysis of PTPRCAP expression in CTLL-2 (A) and TK-1 (B) whole cell lysates.

RESEARCH USE

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