SANTA CRUZ BIOTECHNOLOGY, INC.

PTPRCAP (17A5): sc-59290



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 substrates and regulates the threshold of T-cell activation. PTPRCAP is implicated in activating the oncogenic Src family kinases.

REFERENCES

- 1. Schraven, B., et al. 1994. LPAP, a novel 32-kDa phosphoprotein that interacts with CD45 in human lymphocytes. J. Biol. Chem. 269: 29102-29111.
- 2. 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 phosphataseassociated 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 up-regulates 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.
- 7. 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 (human) mapping to 11q13.2.

SOURCE

PTPRCAP (17A5) is a mouse monoclonal antibody raised against the cytoplasmic domain of PTPRCAP of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 500 μl culture supernatant containing lgG_1 with <0.1% sodium azide.

APPLICATIONS

PTPRCAP (17A5) is recommended for detection of PTPRCAP of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200).

Suitable for use as control antibody for PTPRCAP siRNA (h2): sc-72055, PTPRCAP shRNA Plasmid (h2): sc-72055-SH and PTPRCAP shRNA (h2) Lentiviral Particles: sc-72055-V.

Molecular Weight of PTPRCAP: 32 kDa.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/ thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.