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# PTPRCAP siRNA (m): sc-152587

## 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

- Schraven, B., Schoenhaut, D., Bruyns, E., Koretzky, G., Eckerskorn, C., Waillich, R., Kirchgessner, H., Sakorafas, P., Labkovsky, B. and Ratnofsky, S. 1994. LPAP, a novel 32 kDa phosphoprotein that interacts with CD45 in human lymphocytes. *J. Biol. Chem.* 269: 29102-29111.
- Bruyns, E., Hendricks-Taylor, L.R., Meuer, S., Koretzky, G.A. and Schraven, B. 1996. Identification of the sites of interaction between lymphocyte phosphatase-associated phosphoprotein (LPAP) and CD45. *J. Biol. Chem.* 270: 31372-31376.
- Bruyns, E., Mincheva, A., Bruyns, R.M., Kirchgessner, H., Weitz, S., Lichter, P., Meuer, S. and Schraven, B. 1997. Sequence, genomic organization, and chromosomal localization of the human LPAP (PTPRCAP) and mouse CD45-AP/LSM-1 genes. *Genomics* 38: 79-83.
- Shimizu, Y., Sugiyama, H., Fujii, Y., Sasaki, K., Inoue, K., Ogawa, H., Tamaki, H., Miyake, S., Oji, Y., Soma, T., Yamagami, T., Hirata, M., Ikeda, K., Monden, T. and Kishimoto, T. 1997. Lineage- and differentiation stage-specific expression of LSM-1 (LPAP), a possible substrate for CD45, in human hematopoietic cells. *Am. J. Hematol.* 54: 1-11.
- Ding, I., Bruyns, E., Li, P., Magada, D., Paskind, M., Rodman, L., Seshadri, T., Alexander, D., Giese, T. and Schraven, B. 2000. Biochemical and functional analysis of mice deficient in expression of the CD45-associated phosphoprotein LPAP. *Eur. J. Immunol.* 29: 3956-3961.
- Cocco, E., Murru, M.R., Melis, C., Schirru, L., Solla, E., Lai, M., Rolesu, M. and Marrosu, M.G. 2004. PTPRC (CD45) C77G mutation does not contribute to multiple sclerosis susceptibility in Sardinian patients. *J. Neurol.* 251: 1085-1088.
- Maljaei, S.H., Asvadi-E-Kermani, I., Eivazi-E-Ziaei, J., Nikanfar, A. and Vaez, J. 2005. Usefulness of CD45 density in the diagnosis of B-cell chronic lymphoproliferative disorders. *Indian J. Med. Sci.* 59: 187-194.
- Leitenberg, D., Falahati, R., Lu, D.D. and Takeda, A. 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 Ick. *Immunology* 121: 545-554.

## CHROMOSOMAL LOCATION

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

## PRODUCT

PTPRCAP siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PTPRCAP shRNA Plasmid (m): sc-152587-SH and PTPRCAP shRNA (m) Lentiviral Particles: sc-152587-V as alternate gene silencing products.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

PTPRCAP siRNA (m) is recommended for the inhibition of PTPRCAP expression in mouse cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10  $\mu$ M in 66  $\mu$ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PTPRCAP gene expression knockdown using RT-PCR Primer: PTPRCAP (m)-PR: sc-152587-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.