

# RPTP $\alpha$ (21): sc-136188

## BACKGROUND

Receptor protein-tyrosine phosphatase  $\alpha$  (RPTP $\alpha$ ) dephosphorylates and activates Src family tyrosine kinases and influences the regulation of integrin signaling, cell adhesion and growth factor responsiveness. RPTP $\alpha$  contains an extracellular domain, a single transmembrane segment and two tandem intracytoplasmic catalytic domains, and constitutively forms dimers in the membrane. The human RPTP $\alpha$  sequence encodes a 793 amino acid protein. Mouse RPTP $\alpha$  precipitated from NIH/3T3 cells is constitutively phosphorylated at Ser180/Ser204. RPTP $\alpha$  also serves as a receptor for *Helicobacter pylori* vacuolating cytotoxin, VacA.

## REFERENCES

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2. Ardini, E., et al. 2000. Expression of protein tyrosine phosphatase  $\alpha$  (RPTP $\alpha$ ) in human breast cancer correlates with low tumor grade, and inhibits tumor cell growth *in vitro* and *in vivo*. *Oncogene* 19: 4979-4987.
3. Blanchetot, C. and den Hertog, J. 2000. Multiple interactions between receptor protein-tyrosine phosphatase (RPTP)  $\alpha$  and membrane-distal protein-tyrosine phosphatase domains of various RPTPs. *J. Biol. Chem.* 275: 12446-12452.
4. van der Wijk, T., et al. 2003. Redox-regulated rotational coupling of receptor protein-tyrosine phosphatase  $\alpha$  dimers. *J. Biol. Chem.* 278: 13968-13974.
5. von Wichert, G., et al. 2003. RPTP $\alpha$  acts as a transducer of mechanical force on  $\alpha$ v/ $\beta$ 3-integrin-cytoskeleton linkages. *J. Cell Biol.* 161: 143-153.
6. Yahiro, K., et al. 2003. Protein-tyrosine phosphatase  $\alpha$ , RPTP $\alpha$ , is a *Helicobacter pylori* VacA receptor. *J. Biol. Chem.* 278: 19183-19189.
7. LocusLink Report (LocusID: 5786). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: PTPRA (human) mapping to 20p13; Ptpa (mouse) mapping to 2 F1.

## SOURCE

RPTP $\alpha$  (21) is a mouse monoclonal antibody raised against amino acids 244-503 of RPTP $\alpha$  of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgM in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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. Not for resale.

## APPLICATIONS

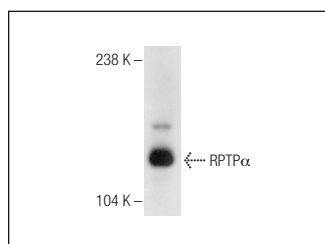
RPTP $\alpha$  (21) is recommended for detection of RPTP $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for RPTP $\alpha$  siRNA (h): sc-44082, RPTP $\alpha$  siRNA (m): sc-153120, RPTP $\alpha$  shRNA Plasmid (h): sc-44082-SH, RPTP $\alpha$  shRNA Plasmid (m): sc-153120-SH, RPTP $\alpha$  shRNA (h) Lentiviral Particles: sc-44082-V and RPTP $\alpha$  shRNA (m) Lentiviral Particles: sc-153120-V.

Molecular Weight of RPTP $\alpha$ : 130 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

## DATA



RPTP $\alpha$  (21): sc-136188. Western blot analysis of RPTP $\alpha$  expression in Jurkat whole cell lysate.

## PROTOCOLS

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