SANTA CRUZ BIOTECHNOLOGY, INC.

# RPTPα (C-8): sc-398243

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Receptor protein-tyrosine phosphatase α (RPTPα) dephosphorylates and activates Src family tyrosine kinases and influences the regulation of integrin signaling, cell adhesion and growth factor responsiveness. RPTPα contains an extracellular domain, a single transmembrane segment and two tandem intracytoplasmic catalytic domains, and constitutively forms dimers in the membrane. The human RPTPα sequence encodes a 793 amino acid protein. Mouse RPTPα precipitated from NIH/3T3 cells is constitutively phosphorylated at Ser 180/Ser 204. RPTPα also serves as a receptor for *Helicobacter pylori* vacuolating cytotoxin, VacA.

## REFERENCES


1. Tracy, S., et al. 1995. The receptor-like protein-tyrosine phosphatase, RPTPα, is phosphorylated by protein kinase C on two serines close to the inner face of the plasma membrane. J. Biol. Chem. 270: 10587-10594.
2. Ardini, E., et al. 2000. Expression of protein tyrosine phosphatase α (RPTPα) 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) α 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 α dimers. J. Biol. Chem. 278: 13968-13974.
5. Yahiro, K., et al. 2003. Protein-tyrosine phosphatase a, RPTPα, is a *Helicobacter pylori* VacA receptor. J. Biol. Chem. 278: 19183-19189.
6. von Wichert, G., et al. 2003. RPTPα acts as a transducer of mechanical force on $\alpha_v/\beta_3$-integrin-cytoskeleton linkages. J. Cell Biol. 161: 143-153.
7. LocusLink Report (LocusID: 5786). http://www.ncbi.nlm.nih.gov/LocusLink/


## CHROMOSOMAL LOCATION

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

## SOURCE

RPTPα (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 194-225 within an internal region of RPTPα of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398243 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

RPTPα (C-8) is recommended for detection of RPTPα of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

RPTPα (C-8) is also recommended for detection of RPTPα in additional species, including equine, canine, bovine and porcine.

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

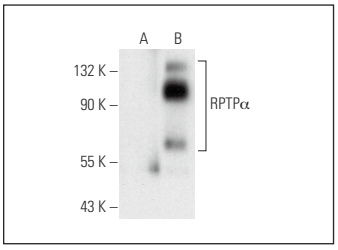
Molecular Weight of RPTPα: 91 kDa.

Positive Controls: RPTPα (h): 293T Lysate: sc-113711.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA




RPTPα (C-8): sc-398243. Western blot analysis of RPTPα expression in non-transfected: sc-117752 (**A**) and human RPTPα transfected: sc-113711 (**B**) 293T whole cell lysates.

## 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.