SANTA CRUZ BIOTECHNOLOGY, INC.

RPTPα (H-4): sc-398203

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Receptor protein-tyrosine phosphatase a (RPTPa) 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. 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.
3. 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.

CHROMOSOMAL LOCATION

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

SOURCE

RPTPα (H-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 178-223 within an internal region of RPTPα of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RPTPα (H-4) is available conjugated to agarose (sc-398203 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398203 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398203 PE), fluorescein (sc-398203 FITC), Alexa Fluor® 488 (sc-398203 AF488), Alexa Fluor® 546 (sc-398203 AF546), Alexa Fluor® 594 (sc-398203 AF594) or Alexa Fluor® 647 (sc-398203 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398203 AF680) or Alexa Fluor® 790 (sc-398203 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398203 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

RPTPα (H-4) 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 (H-4) 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.

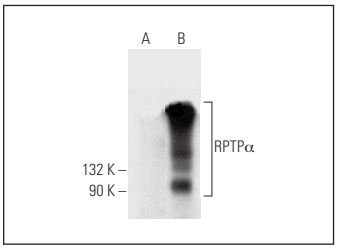
Molecular Weight of RPTPα: 91 kDa.

Positive Controls: RPTPα (m): 293T Lysate: sc-127495 or RPTPα (h): 293T Lysate: sc-113711.

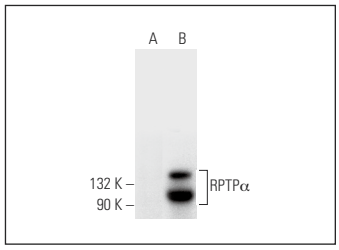
RECOMMENDED SUPPORT REAGENTS

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 (H-4): sc-398203. Western blot analysis of RPTPα expression in non-transfected: sc-117752 (**A**) and mouse RPTPα transfected: sc-127495 (**B**) 293T whole cell lysates.



RPTPα (H-4): sc-398203. Western blot analysis of RPTPα expression in non-transfected: sc-117752 (**A**) and human RPTPα transfected: sc-113711 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Gao, X., et al. 2023. Targeting protein tyrosine phosphatases for CDK6-induced immunotherapy resistance. Cell Rep. 42: 112314.

RESEARCH USE

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