

RPTP α (E-20): sc-19116

BACKGROUND

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

REFERENCES

1. Tracy, S., van der Geer, P. and Hunter, T. 1995. The receptor-like protein-tyrosine phosphatase, RPTP α , 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., Agresti, R., Tagliabue, E., Greco, M., Aiello, P., Yang, L.T., Ménard, S. and Sap, J. 2000. Expression of protein tyrosine phosphatase α (RPTP α) 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., Blanchetot, C., Overvoorde, J. and den Hertog, J. 2003. Redox-regulated rotational coupling of receptor protein-tyrosine phosphatase α dimers. *J. Biol. Chem.* 278: 13968-13974.
5. von Wichert, G., Jiang, G., Kostic, A., De Vos, K., Sap, J. and Sheetz, M.P. 2003. RPTP α acts as a transducer of mechanical force on α v/ β 3-integrin-cytoskeleton linkages. *J. Cell Biol.* 161: 143-153.

CHROMOSOMAL LOCATION

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

SOURCE

RPTP α (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RPTP α of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19116 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

RPTP α (E-20) is recommended for detection of RPTP α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

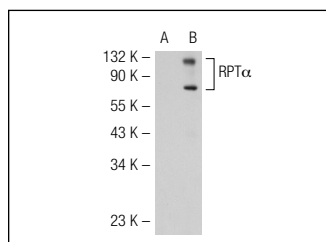
RPTP α (E-20) is also recommended for detection of RPTP α in additional species, including equine, canine, bovine, porcine and avian.

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

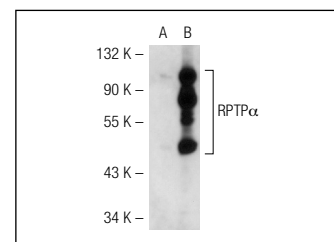
Molecular Weight of RPTP α : 91 kDa.

Positive Controls: RPTP α (h): 293T lysate: sc-113711, RPTP α (m): 293T Lysate: sc-127495 or NIH/3T3 whole cell lysate: sc-2210.

DATA



RPTP α (E-20): sc-19116. Western blot analysis of RPTP α expression in non-transfected: sc-117752 (A) and human RPTP α transfected: sc-113711 (B) 293T whole cell lysates.



RPTP α (E-20): sc-19116. Western blot analysis of RPTP α expression in non-transfected: sc-117752 (A) and mouse RPTP α transfected: sc-127495 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Monteleone, G., Franchi, L., Fina, D., Caruso, R., Vavassori, P., Monteleone, I., Calabrese, E., Naccari, G.C., Bellinva, S., Testi, R. and Pallone, F. 2006. Silencing of SH-PTP2 defines a crucial role in the inactivation of epidermal growth factor receptor by 5-aminosalicylic acid in colon cancer cells. *Cell Death Differ.* 13: 202-211.

RESEARCH USE

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



Try **RPTP α (H-4): sc-398203** or **RPTP α (C-8): sc-398243**, our highly recommended monoclonal alternatives to RPTP α (E-20).