

P-Rex1 (K-19): sc-85806

BACKGROUND

P-Rex1 (phosphatidylinositol 3,4,5-trisphosphate-dependent RAC exchanger 1), also known as PREX1, is a cytoplasmic protein sometimes associated with the plasma membrane that is predominantly expressed in brain and peripheral blood leukocytes. Belonging to the P-Rex family of Rac-GEFs, P-Rex1 contains a DEP domain, a DH (DBL-homology) domain, a PDZ domain and two PH domains, and is believed to function as a RAC guanine nucleotide exchange factor (GEF). Via its PH domains, P-Rex1 is activated by phosphatidylinositol (3, 4, 5)-trisphosphate (PIP3) and, via its DH domain, P-Rex1 is activated by $\beta\gamma$ subunits of heterotrimeric G proteins. The phenotypic outcome of P-Rex1 knockout mice suggests that P-Rex1 plays an important role in chemotaxis, neutrophil recruitment to inflammatory sites, production of reactive oxygen species and regulation of GPCR (G protein-coupled receptor)-dependent Rac 2 activation.

REFERENCES

1. Welch, H.C., et al. 2002. P-Rex1, a PtdIns(3,4,5)P₃- and G $\beta\gamma$ -regulated guanine-nucleotide exchange factor for Rac. *Cell* 108: 809-821.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606905. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Dong, X., et al. 2005. P-Rex1 is a primary Rac 2 guanine nucleotide exchange factor in mouse neutrophils. *Curr. Biol.* 15: 1874-1879.
4. Mayeenuddin, L.H., et al. 2006. Differential sensitivity of P-Rex1 to isoforms of G protein $\beta\gamma$ dimers. *J. Biol. Chem.* 281: 1913-1920.
5. Mayeenuddin, L.H. and Garrison, J.C. 2006. Phosphorylation of P-Rex1 by the cyclic AMP-dependent protein kinase inhibits the phosphatidylinositol (3,4,5)-trisphosphate and G $\beta\gamma$ -mediated regulation of its activity. *J. Biol. Chem.* 281: 1921-1928.
6. Hill, K. and Welch, H.C. 2006. Purification of P-Rex1 from neutrophils and nucleotide exchange assay. *Meth. Enzymol.* 406: 26-41.
7. Hernández-Negrete, I., et al. 2007. P-Rex1 links mammalian target of rapamycin signaling to Rac activation and cell migration. *J. Biol. Chem.* 282: 23708-23715.

CHROMOSOMAL LOCATION

Genetic locus: PREX1 (human) mapping to 20q13.13; Prex1 (mouse) mapping to 2 H3.

SOURCE

P-Rex1 (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of P-Rex1 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-85806 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

P-Rex1 (K-19) is recommended for detection of P-Rex1 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).

P-Rex1 (K-19) is also recommended for detection of P-Rex1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for P-Rex1 siRNA (h): sc-76023, P-Rex1 siRNA (m): sc-151954, P-Rex1 shRNA Plasmid (h): sc-76023-SH, P-Rex1 shRNA Plasmid (m): sc-151954-SH, P-Rex1 shRNA (h) Lentiviral Particles: sc-76023-V and P-Rex1 shRNA (m) Lentiviral Particles: sc-151954-V.

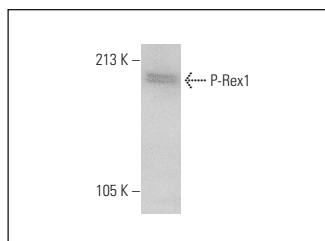
Molecular Weight of P-Rex1: 185 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



P-Rex1 (K-19): sc-85806. Western blot analysis of P-Rex1 expression in HeLa whole cell lysate.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.