

PLEK2 (S-14): sc-163239

BACKGROUND

PLEK2 (pleckstrin 2) is a 353 amino acid peripheral membrane protein that contains both an N- and a C-terminal PH domain, as well as an intervening DEP domain. Although highly homologous to Pleckstrin, which contains three phosphorylation sites and is an efficient substrate of PKC, PLEK2 contains a single phosphorylation site and is an inefficient PKC substrate. Localizing to cytoskeleton, PLEK2 is ubiquitously expressed, with highest expression in thymus, prostate, testis, ovary, small bowel and large bowel. When bound to the cell membrane, PLEK2 contributes to lamellipodia formation, with over-expression potentially leading to large lamellipodia and peripheral ruffle formation. PLEK2 targets ligands in cell membranes and induces Actin rearrangement. PLEK2 likely redistributes actin within cells and may play a role in orchestrating cytoskeletal arrangement. The gene that encodes PLEK2 maps to human chromosome 14q23.3.

REFERENCES

1. Inazu, T., Yamada, K. and Miyamoto, K. 1999. Cloning and expression of pleckstrin 2, a novel member of the pleckstrin family. *Biochem. Biophys. Res. Commun.* 265: 87-93.
2. Hu, M.H., Bauman, E.M., Roll, R.L., Yeilding, N. and Abrams, C.S. 1999. Pleckstrin 2, a widely expressed paralog of pleckstrin involved in actin rearrangement. *J. Biol. Chem.* 274: 21515-21518.
3. Lemmon, M.A., Ferguson, K.M. and Abrams, C.S. 2002. Pleckstrin homology domains and the cytoskeleton. *FEBS Lett.* 513: 71-76.
4. Inazu, T., Kuroiwa, A., Matsuda, Y. and Miyamoto, K. 2005. Cloning, expression and chromosomal assignment of human pleckstrin 2. *Mol. Biol. Rep.* 32: 35-40.
5. Hamaguchi, N., Ihara, S., Ohdaira, T., Nagano, H., Iwamatsu, A., Tachikawa, H. and Fukui, Y. 2007. Pleckstrin-2 selectively interacts with phosphatidylinositol 3-kinase lipid products and regulates actin organization and cell spreading. *Biochem. Biophys. Res. Commun.* 361: 270-275.
6. Bach, T.L., Kerr, W.T., Wang, Y., Bauman, E.M., Kine, P., Whiteman, E.L., Morgan, R.S., Williamson, E.K., Ostap, E.M., Burkhardt, J.K., Koretzky, G.A., Birnbaum, M.J. and Abrams, C.S. 2007. PI3K regulates pleckstrin-2 in T-cell cytoskeletal reorganization. *Blood* 109: 1147-1155.

CHROMOSOMAL LOCATION

Genetic locus: PLEK2 (human) mapping to 14q23.3; Plek2 (mouse) mapping to 12 C3.

SOURCE

PLEK2 (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PLEK2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-163239 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PLEK2 (S-14) is recommended for detection of PLEK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

PLEK2 (S-14) is also recommended for detection of PLEK2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PLEK2 siRNA (h): sc-92127, PLEK2 siRNA (m): sc-152304, PLEK2 shRNA Plasmid (h): sc-92127-SH, PLEK2 shRNA Plasmid (m): sc-152304-SH, PLEK2 shRNA (h) Lentiviral Particles: sc-92127-V and PLEK2 shRNA (m) Lentiviral Particles: sc-152304-V.

Molecular Weight of PLEK2: 40 kDa.

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) 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.

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.