

PIP5KIII (E-20): sc-83846

BACKGROUND

Phosphorylation of phosphatidylinositol (PtdIns) derivatives is suggested to play a role in regulating cytoskeletal functions, membrane trafficking and receptor signaling by recruiting protein complexes to cell- and endosomal-membranes. PtdIns proteins are distinguished by the degree and position of phosphorylation of the inositol ring. PIP5KIII (Phosphatidylinositol 3-phosphate 5-kinase), also known as PIP5K3, FAB1, CFD, PIKFYVE or ZFYVE29 is 2,098 amino acid protein that synthesizes phosphatidylinositol-3,5-bisphosphate by catalyzing the phosphorylation of phosphatidylinositol 3-phosphate on the fifth hydroxyl of the inositol ring. PIP5KIII is thought to play a major role in nuclear migration and the endocytic-vacuolar pathway. PIP5KIII exists as four alternatively spliced isoforms and contains a DEP domain, a FYVE-type zinc finger and a PIPK domain. Defects in the gene encoding PIP5KIII lead to corneal fleck dystrophy (CFD), an autosomal disorder in which small white flecks are found throughout the corneal stroma.

REFERENCES

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2. Ikonomov, O.C., et al. 2003. PIKfyve controls fluid phase endocytosis but not recycling/degradation of endocytosed receptors or sorting of procathepsin D by regulating multivesicular body morphogenesis. *Mol. Biol. Cell* 14: 4581-4591.
3. Rutherford, A.C., et al. 2006. The mammalian phosphatidylinositol 3-phosphate 5-kinase (PIKfyve) regulates endosome-to-TGN retrograde transport. *J. Cell Sci.* 119: 3944-3957.
4. Kim, J., et al. 2007. The phosphoinositide kinase PIKfyve mediates epidermal growth factor receptor trafficking to the nucleus. *Cancer Res.* 67: 9229-9237.
5. Shisheva, A., et al. 2008. PIKfyve: Partners, significance, debates and paradoxes. *Cell Biol. Int.* 32: 591-604.
6. Coronas, S., et al. 2008. Elevated levels of PtdIns5P in NPM-ALK transformed cells: implication of PIKfyve. *Biochem. Biophys. Res. Commun.* 372: 351-355.

CHROMOSOMAL LOCATION

Genetic locus: PIKFYVE (human) mapping to 2q34; Pikfyve (mouse) mapping to 1 C2.

SOURCE

PIP5KIII (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PIP5KIII 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-83846 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PIP5KIII (E-20) is recommended for detection of PIP5KIII 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).

PIP5KIII (E-20) is also recommended for detection of PIP5KIII in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PIP5K III siRNA (h): sc-39142, PIP5KIII siRNA (m): sc-72205, PIP5K III shRNA Plasmid (h): sc-39142-SH, PIP5KIII shRNA Plasmid (m): sc-72205-SH, PIP5K III shRNA (h) Lentiviral Particles: sc-39142-V and PIP5KIII shRNA (m) Lentiviral Particles: sc-72205-V.

Molecular Weight of PIP5KIII: 262 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) 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.