SANTA CRUZ BIOTECHNOLOGY, INC.

POPX2 (A-18): sc-67784

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The Power to Question

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine protein phosphatases. POPX1 (also known as partner of PIX 1, PPM1E (protein phosphatase 1E) or PP2CH) and POPX2 (also known as partner of PIX 2, PPM1F, CaMKPase (CaM-kinase phosphatase) or FEM-2) belong to the PP2C family of serine/threonine phosphatases. Members of the PP2C family are negative regulators of cell stress response pathways. POPX2 is a ubiquitously expressed protein and POPX1 is predominantly expressed in brain and testis. POPX1 and POPX2 specifically interact with PIX (PAK interacting exchange factor) proteins and negatively regulate the activity of αPAK, a protein kinase that can lead to the breakdown of Actin stress fibers and other morphological changes. POPX2 can also interact with and regulate CaMKII activity. Overexpression of POPX2 can result in caspase-dependent apoptosis.

REFERENCES

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5. Harvey, B.P., et al. 2004. Regulation of the multifunctional Ca^{2+}/calmodulin-dependent protein kinase II by the PP2C phosphatase PPM1F in fibroblasts. J. Biol. Chem. 279: 24889-24898.
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CHROMOSOMAL LOCATION

Genetic locus: Ppm1f (mouse) mapping to 16 A3.

SOURCE

POPX2 (A-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of POPX2 of mouse origin.

RESEARCH USE

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

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-67784 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

POPX2 (A-18) is recommended for detection of POPX2 of mouse and rat 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).

Suitable for use as control antibody for POPX2 siRNA (m): sc-62845, POPX2 shRNA Plasmid (m): sc-62845-SH and POPX2 shRNA (m) Lentiviral Particles: sc-62845-V.

Molecular Weight of POPX2: 54 kDa.

Positive Controls: POPX2 (h2): 293T Lysate: sc-177761 or Jurkat whole cell lysate: sc-2204.

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.

PROTOCOLS

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