SANTA CRUZ BIOTECHNOLOGY, INC.

PP2Cε (S-19): sc-100100

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. The PP2C group of serine/threonine phosphatases are divided into subclasses according to their requirement for magnesium substrate, their structure and by insensitivity to okadaic acid. PP2Cε (Protein phosphatase 2C isoform ε), also known as protein phosphatase 1L, is a 360 amino acid membrane protein that acts as a suppressor of the JNK signaling pathways by dephosphorylating Tak1 and ASK 1. PP2Cε is ubiquitously expressed, with highest levels found in lung, heart, placenta, kidney, pancreas and liver. There are two isoforms of PP2Cε that are produced as a result of alternative splicing events. The gene encoding PP2Cε may be linked to disease traits that are associated with metabolic syndromes, such as obesity.

REFERENCES

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4. Jin, F., et al. 2004. Molecular cloning and characterization of a novel human protein phosphatase 2C cDNA (PP2Cε*). Mol. Biol. Rep. 31: 197-202.
5. Saito, J., et al. 2007. Regulation of apoptosis signal-regulating kinase 1 by protein phosphatase 2Cepsilon. Biochem. J. 405: 591-596.
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9. Schweighofer, A., et al. 2009. Phosphatase activities analyzed by *in vivo* expressions. Methods Mol. Biol. 479: 247-260.

CHROMOSOMAL LOCATION

Genetic locus: PPM1L (human) mapping to 3q25.33; Ppm1l (mouse) mapping to 3 E1.

SOURCE

PP2Cε (S-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of PP2Cε 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-100100 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PP2Cε (S-19) is recommended for detection of PP2Cε 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).

Suitable for use as control antibody for PP2Cε siRNA (h): sc-78298, PP2Cε siRNA (m): sc-152397, PP2Cε shRNA Plasmid (h): sc-78298-SH, PP2Cε shRNA Plasmid (m): sc-152397-SH, PP2Cε shRNA (h) Lentiviral Particles: sc-78298-V and PP2Cε shRNA (m) Lentiviral Particles: sc-152397-V.

Molecular Weight of PP2Cε: 41 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.