SANTA CRUZ BIOTECHNOLOGY, INC.

PP2Cη (C-20): sc-50859

BACKGROUND

Eukaryotic protein phosphorylation and dephosphorylation on serine and threonine residues regulates numerous cell functions, including division, homeostasis and apoptosis. A group of proteins that play a major role in this process are the serine/threonine protein phosphatases. Protein phosphatase (PP) holoenzyme is a trimeric complex that contains a regulatory subunit, a variable subunit and a catalytic subunit. Families of PP catalytic subunits include PP1 (PP1α, β and γ), PP2A (α and β), PP2B (calcineurin, PP2Bα, β and γ), PP2C (α, β, γ, η and Wip1), PP4 (PPX) and PP5 (PPT). PP2C family members are negative regulators of cell stress response pathways. The PP2Cη enzyme contains 406 amino acids and localizes to the nucleus. It contains six motifs conserved in all PP2C family members, and PP2Cη has a unique nuclear localization signal between motifs three and four.

REFERENCES

1. Cheng, A., et. al. 2000. Dephosphorylation of human cyclin-dependent kinases by protein phosphatase type 2Cα and β2 isoforms. J. Biol. Chem. 275: 34744-34749.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608979. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Komaki, K., et. al. 2003. Molecular cloning of PP2Cη, a novel member of the protein phosphatase 2C family. Biochim. Biophys. Acta 1630: 130-137.
4. Gerhard, D.S., et. al. 2004. The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC). Genome Res. 14: 2121-2127.
5. Brautigan, D.L., et al. 2005. Allosteric activation of protein phosphatase 2C by D-chiro-inositol-galactosamine, a putative mediator mimetic of Insulin action. Biochemistry 44: 11067-11073.

CHROMOSOMAL LOCATION

Genetic locus: PPM1M (human) mapping to 3p21.2.

SOURCE

PP2Cη (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PP2Cη 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-50859 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

PP2Cη (C-20) is recommended for detection of PP2Cη of 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); non cross-reactive with isoform 2.

PP2Cη (C-20) is also recommended for detection of PP2Cη in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PP2Cη siRNA (h): sc-61391, PP2Cη shRNA Plasmid (h): sc-61391-SH and PP2Cη shRNA (h) Lentiviral Particles: sc-61391-V.

Molecular Weight of PP2Cη: 43 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.

PROTOCOLS

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