

PP2C ζ (H-45): sc-292951

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. PP2C ζ (protein phosphatase 2C isoform ζ), also known as PPM1J (protein phosphatase, Mg²⁺/Mn²⁺ dependent, 1J), is a 505 amino acid phosphoprotein that contains one PP2C-like domain and belongs to the PP2C family. Two isoforms of PP2C ζ are produced as a result of alternative splicing events. PP2C ζ likely exhibits its specific role through its small ubiquitin-related modifier-1-induced recruitment to UBC9 (ubiquitin conjugating enzyme 9).

REFERENCES

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- Zolnierowicz, S. 2000. Type 2A protein phosphatase, the complex regulator of numerous signaling pathways. *Biochem. Pharmacol.* 60: 1225-1235.
- Hanada, M., et al. 2001. Regulation of the TAK1 signaling pathway by protein phosphatase 2C. *J. Biol. Chem.* 276: 5753-5759.
- Komaki, K., et al. 2003. Molecular cloning of PP2C η , a novel member of the protein phosphatase 2C family. *Biochim. Biophys. Acta* 1630: 130-137.
- Kashiwaba, M., et al. 2003. A novel protein phosphatase 2C family member (PP2C ζ) is able to associate with ubiquitin conjugating enzyme 9. *FEBS Lett.* 538: 197-202.
- Hearnes, J.M., et al. 2005. Chromatin immunoprecipitation-based screen to identify functional genomic binding sites for sequence-specific transactivators. *Mol. Cell. Biol.* 25: 10148-10158.
- Lu, G., et al. 2008. Functional diversity of mammalian type 2C protein phosphatase isoforms: new tales from an old family. *Clin. Exp. Pharmacol. Physiol.* 35: 107-112.

CHROMOSOMAL LOCATION

Genetic locus: PPM1J (human) mapping to 1p13.2; Ppm1j (mouse) mapping to 3 F2.2.

SOURCE

PP2C ζ (H-45) is a rabbit polyclonal antibody raised against amino acids 431-475 mapping near the C-terminus of PP2C ζ of human origin.

PRODUCT

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

APPLICATIONS

PP2C ζ (H-45) is recommended for detection of PP2C ζ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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).

PP2C ζ (H-45) is also recommended for detection of PP2C ζ in additional species, including equine and canine.

Suitable for use as control antibody for PP2C ζ siRNA (h): sc-78774, PP2C ζ siRNA (m): sc-155945, PP2C ζ shRNA Plasmid (h): sc-78774-SH, PP2C ζ shRNA Plasmid (m): sc-155945-SH, PP2C ζ shRNA (h) Lentiviral Particles: sc-78774-V and PP2C ζ shRNA (m) Lentiviral Particles: sc-155945-V.

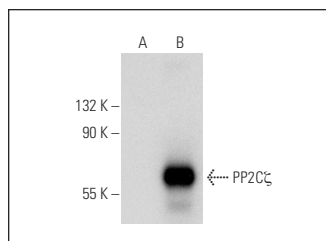
Molecular Weight of PP2C ζ isoforms: 55/33 kDa.

Positive Controls: PP2C ζ (h): 293T Lysate: sc-117403.

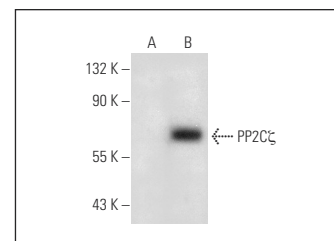
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



PP2C ζ (H-45): sc-292951. Western blot analysis of PP2C ζ expression in non-transfected: sc-117752 (A) and human PP2C ζ transfected: sc-117403 (B) 293T whole cell lysates.



PP2C ζ (H-45): sc-292951. Western blot analysis of PP2C ζ expression in non-transfected: sc-117752 (A) and human PP2C ζ transfected: sc-177765 (B) 293T whole cell lysates.

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.