

PP2C κ (E-8): sc-514925

BACKGROUND

PP2C κ (protein phosphatase 2C isoform κ), also known as PP2C-type mitochondrial phosphoprotein phosphatase and PP2C domain-containing protein phosphatase 1K, is a 372 amino acid mitochondrial matrix protein that regulates the opening of mitochondrial membrane permeability transition pores. PP2C κ is essential for cell survival, cardiac function and embryonic development. Knockdown of PP2C κ results in cell death due to loss of mitochondrial membrane potential. PP2C κ specifically binds to the branched-chain- α -keto-acid dehydrogenase (BCKD) complex and induces dephosphorylation of Ser293, effectively leading to the inhibition of branched chain amino acid metabolism. Highest expression of PP2C κ is found in brain, diaphragm and heart. There are three isoforms of PP2C κ that are produced as a result of alternative splicing events.

REFERENCES

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4. Javadov, S. and Karmazyn, M. 2007. Mitochondrial permeability transition pore opening as an endpoint to initiate cell death and as a putative target for cardioprotection. *Cell. Physiol. Biochem.* 20: 1-22.
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7. Lu, G., et al. 2009. Protein phosphatase 2C κ is a critical regulator of branched-chain amino acid catabolism in mice and cultured cells. *J. Clin. Invest.* 119: 1678-1687.
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CHROMOSOMAL LOCATION

Genetic locus: PPM1K (human) mapping to 4q22.1; Ppm1k (mouse) mapping to 6 B3.

SOURCE

PP2C κ (E-8) is a mouse monoclonal antibody raised against amino acids 213-280 mapping near the C-terminus of PP2C κ of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PP2C κ (E-8) is recommended for detection of PP2C κ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for PP2C κ siRNA (h): sc-89095, PP2C κ siRNA (m): sc-155944, PP2C κ shRNA Plasmid (h): sc-89095-SH, PP2C κ shRNA Plasmid (m): sc-155944-SH, PP2C κ shRNA (h) Lentiviral Particles: sc-89095-V and PP2C κ shRNA (m) Lentiviral Particles: sc-155944-V.

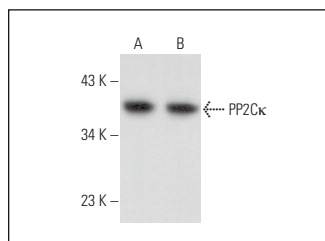
Molecular Weight of PP2C κ : 41 kDa.

Positive Controls: human heart extract: sc-363763, Sol8 cell lysate: sc-2249 or A-10 cell lysate: sc-3806.

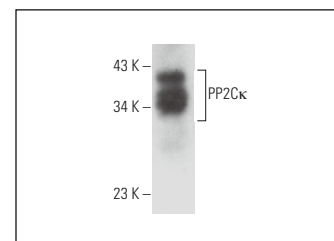
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PP2C κ (E-8): sc-514925. Western blot analysis of PP2C κ expression in Sol8 (A) and A-10 (B) whole cell lysates.



PP2C κ (E-8): sc-514925. Western blot analysis of PP2C κ expression in human heart tissue extract.

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 for detailed protocols and support products.