

PP2C α / β (h2): 293T Lysate: sc-116262

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. Protein phosphatase 2C α (PP2C α) has broad specificity. It dephosphorylates and negatively regulates the activities of MAP kinases and MAP kinase-kinases while also inhibiting the activation of p38 and JNK kinase cascades, induced by environmental stresses. PP2C α also induces the expression of endogenous p53 and the p53-responsive gene p21, leading to cell cycle arrest and apoptosis. The PP2C α protein, which contains an active site containing a dinuclear metal ion center, shows highest expression in epithelial cells, as well as in the digestive tract, lung, kidney, breast, prostate, endocrine glands and brain.

REFERENCES

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3. Yokoyama, N., et al. 1996. Purification and characterization of protein phosphatase 2C in rat parotid acinar cells: two forms of Mg²⁺-activated histone phosphatase and phosphorylation by cAMP-dependent protein kinase. *Arch. Biochem. Biophys.* 331: 1-8.
4. Takekawa, M., et al. 1998. Protein phosphatase 2C α inhibits the human stress-responsive p38 and JNK MAPK pathways. *EMBO J.* 17: 4744-4452.
5. Lifschitz-Mercer, B., et al. 2001. Protein phosphatase 2C α expression in normal human tissues: an immunohistochemical study. *Histochem. Cell Biol.* 116: 31-39.
6. Jackson, M.D., et al. 2003. Probing the function of conserved residues in the serine/threonine phosphatase PP2C α . *Biochemistry* 42: 8513-8521.
7. Ofek, P., et al. 2003. Cell cycle regulation and p53 activation by protein phosphatase 2C α . *J. Biol. Chem.* 278: 14299-14305.

CHROMOSOMAL LOCATION

Genetic locus: PPM1A (human) mapping to 14q23.1.

PRODUCT

PP2C α / β (h2): 293T Lysate represents a lysate of human PP2C α / β transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

PP2C α / β (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive PP2C α / β antibodies. Recommended use: 10-20 μ l per lane.

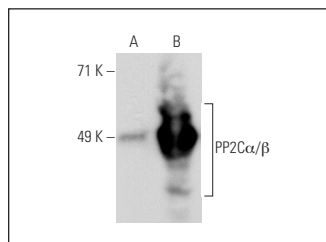
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PP2C α (6D708): sc-71922 or is recommended as a positive control antibody for Western Blot analysis of enhanced human PP2C α / β expression in PP2C α / β transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



PP2C α (6D708): sc-71922. Western blot analysis of PP2C α / β expression in non-transfected: sc-117752 (A) and human PP2C α / β transfected: sc-116262 (B) 293T whole cell lysates.

RESEARCH USE

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