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SANTA CRUZ BIOTECHNOLOGY, INC.

PP2Cβ (m): 293T Lysate: sc-122721

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 PP2Cβ enzyme has broad specificity and is highly expressed in the heart and skeletal muscle. It may be involved in cell cycle control as it dephosphorylates the cyclin-dependent kinases (CDKs), CDK2 and CDK6, *in vitro*. Overexpression of PP2Cβ can cause cell growth arrest or cell death.

REFERENCES

1. Marley, A.E., Kline, A., Crabtree, G., Sullivan, J.E. and Beri, R.K. 1998. The cloning expression and tissue distribution of human PP2Cβ. FEBS Lett. 431: 121-124.
2. Cheng, A., Kaldis, P. and Solomon, M.J. 2000. Dephosphorylation of human cyclin-dependent kinases by protein phosphatase type 2C α and β 2 isoforms. J. Biol. Chem. 275: 34744-34749.
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4. Brautigan, D.L., Brown, M., Grindrod, S., Chinigo, G., Kruszewski, A., Lukasik, S.M., Bushweller, J.H., Horal, M., Keller, S., Tamura, S., Heimark, D.B., Price, J., Larner, A.N. and Larner, J. 2005. Allosteric activation of protein phosphatase 2C by D-chiro-inositol-galactosamine, a putative mediator mimetic of Insulin action. Biochemistry 44: 11067-11073.
5. Hufnagel, B., Dworak, M., Soufi, M., Mester, Z., Zhu, Y., Schaefer, J.R., Klumpp, S. and Krieglstein, J. 2005. Unsaturated fatty acids isolated from human lipoproteins activate protein phosphatase type 2Cβ and induce apoptosis in endothelial cells. Atherosclerosis 180: 245-254.

CHROMOSOMAL LOCATION

Genetic locus: Ppm1b (mouse) mapping to 17 E4.

PRODUCT

PP2Cb (m): 293T Lysate represents a lysate of mouse PP2Cb transfected 293T cells and is provided as 100 µg protein in 200 µl 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

PP2Cβ (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive PP2Cβ antibodies. Recommended use: 10-20 µl per lane.

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

RESEARCH USE

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