

## PP2B-A $\alpha$ (C-20): sc-6123

### BACKGROUND

In eukaryotes, the phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions including division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the protein phosphatases. In general, the protein phosphatase (PP) holoenzyme is a trimeric complex composed of a regulatory subunit, a variable subunit and a catalytic subunit. Four major families of protein phosphatase catalytic subunit have been identified, designated PP1, PP2A, PP2B and PP2C. An additional protein phosphatase catalytic subunit, PPX (also known as PP4), is a putative member of a novel PP family. The PP2B family comprises subfamily members PP2B-A $\alpha$ , PP2B-A $\beta$  and PP2B-A $\gamma$ . Two additional regulatory subunits been identified, designated PP2B-B1 and PP2B-B2.

### CHROMOSOMAL LOCATION

Genetic locus: PPP3CA (human) mapping to 4q24; Ppp3ca (mouse) mapping to 3 G3.

### SOURCE

PP2B-A $\alpha$  (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PP2B-A $\alpha$  of human origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-6123 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PP2B-A $\alpha$  (C-20) is recommended for detection of PP2B-A $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

PP2B-A $\alpha$  (C-20) is also recommended for detection of PP2B-A $\alpha$  in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PP2B-A $\alpha$  siRNA (h): sc-36304, PP2B-A $\alpha$  siRNA (m): sc-36303, PP2B-A $\alpha$  shRNA Plasmid (h): sc-36304-SH, PP2B-A $\alpha$  shRNA Plasmid (m): sc-36303-SH, PP2B-A $\alpha$  shRNA (h) Lentiviral Particles: sc-36304-V and PP2B-A $\alpha$  shRNA (m) Lentiviral Particles: sc-36303-V.

Molecular Weight of PP2B-A $\alpha$ : 56 kDa.

Positive Controls: mouse brain extract: sc-2253 or A-431 whole cell lysate: sc-2201.

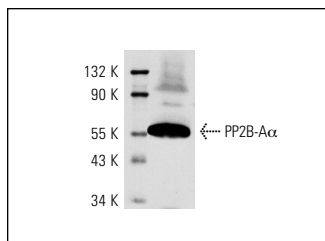
### STORAGE

Store at 4 $^{\circ}$  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.

### DATA



PP2B-A $\alpha$  (C-20): sc-6123. Western blot analysis of PP2B-A $\alpha$  expression in mouse brain extract.

### SELECT PRODUCT CITATIONS

1. Taigen, T., et al. 2000. Targeted inhibition of calcineurin prevents agonist-induced cardiomyocyte hypertrophy. *Proc. Natl. Acad. Sci. USA* 97: 1196-1201.
2. Delling, U., et al. 2000. A calcineurin-NFATc3-dependent pathway regulates skeletal muscle differentiation and slow myosin heavy-chain expression. *Mol. Cell. Biol.* 20: 6600-6611.
3. Carpentier, M., et al. 2000. Delineation of the calcineurin-interacting region of cyclophilin B. *Protein Sci.* 9: 2386-2393.
4. Gooch, J. 2004. Differential expression of calcineurin A isoforms in the diabetic kidney. *J. Am. Soc. Neph.* 15: 1421-1429.
5. Jayanthi, S., et al. 2005. Calcineurin/NFAT-induced up-regulation of the Fas ligand/Fas death pathway is involved in methamphetamine-induced neuronal apoptosis. *Proc. Natl. Acad. Sci. USA* 102: 868-873.
6. Ackermann, G.E., et al. 2008. S100A1 deficiency results in prolonged ventricular repolarization in response to sympathetic activation. *Gen. Physiol. Biophys.* 27: 127-142.
7. Pang, X. and Sun, N.L. 2009. Calcineurin-NFAT signaling is involved in phenylephrine-induced vascular smooth muscle cell proliferation. *Acta Pharmacol. Sin.* 30: 537-544.
8. Wills, J., et al. 2011. Tauopathic changes in the striatum of A53T  $\alpha$ -synuclein mutant mouse model of Parkinson's disease. *PLoS ONE* 6: e17953.
9. Nie, H., et al. 2013. Phosphorylation of FOXP3 controls regulatory T cell function and is inhibited by TNF- $\alpha$  in rheumatoid arthritis. *Nat. Med.* 19: 322-328.


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