SANTA CRUZ BIOTECHNOLOGY, INC.

PP2A-Aα/β (H-300): sc-15355

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 subunits have been identified, designated PP1, PP2A, PP2B (calcineurin) and PP2C. The PP2A family comprises subfamily members PP2Aα and PP2Aβ. An additional protein phosphatase catalytic subunit, PPX (also known as PP4) is a putative member of a novel PP family. The PP2A catalytic subunit is a 36 kDa protein that associates with a variety of regulatory subunits. Regulatory subunits include PP2A-Aα and -Aβ, PP2A-Bα and -Bβ, PP2A-Cα and -Cβ, PP2A-B56α and -B56β.

REFERENCES

1. Ueki, K., et al. 1992. Structure and expression of two isoforms of the murine calmodulin-dependent protein phosphatase regulatory subunit (calcineurin B). Biochem. Biophys. Res. Commun. 187: 537-543.
2. Cohen, P.T. 1993. Important roles for novel protein phosphatases dephosphorylating serine and threonine residues. Biochem. Soc. Trans. 21: 884-888.
3. Hendrix, P., et al. 1993. Structure and expression of a 72 kDa regulatory subunit of protein phosphatase 2A. Evidence for different size forms produced by alternative splicing. J. Biol. Chem. 268: 15267-15276.
4. Mumby, M.C., et al. 1993. Protein serine/threonine phosphatases: structure, regulation, and functions in cell growth. Phys. Rev. 73: 673-699.
5. Okubo, S., et al. 1994. A regulatory subunit of smooth muscle myosin bound phosphatase. Biochem. Biophys. Res. Commun. 200: 429-434.
6. Wera, S., et al.1995. Serine/threonine protein phosphatases. Biochem. J. 311: 17-29.
7. Van Eynde, A., et al. 1995. Molecular cloning of NIPP-1, a nuclear inhibitor of protein phosphatase-1, reveals homology with polypeptides involved in RNA processing. J. Biol. Chem. 270: 28068-28074.

CHROMOSOMAL LOCATION

Genetic locus: PPP2R1A (human) mapping to 19q13.33, PPP2R1B (human) mapping to 11q23.1; Ppp2r1a (mouse) mapping to 17 A3.2, Ppp2r1b (mouse) mapping to 9 A5.3.

SOURCE

PP2A-Aα/β (H-300) is a rabbit polyclonal antibody raised against amino acids 290-589 mapping at the C-terminus of PP2A-Aα (protein phosphatase 2A regulatory subunit Aα) of human origin.

PRODUCT

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

APPLICATIONS

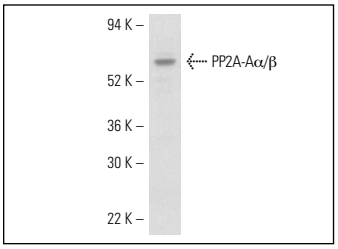
PP2A-Aα/β (H-300) is recommended for detection of PP2A-Aα and PP2A-Aβ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PP2A-Aα/β (H-300) is also recommended for detection of PP2A-Aα and PP2A-Aβ in additional species, including canine, bovine and porcine.

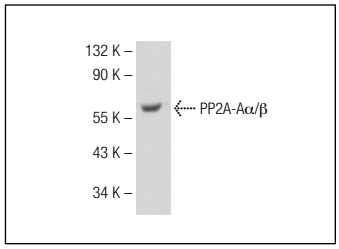
Molecular Weight of PP2A-Aα/β: 65 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, Jurkat whole cell lysate: sc-2204 or NIH/3T3 whole cell lysate: sc-2210.

DATA



PP2A-Aα/β (H-300): sc-15355. Western blot analysis of PP2A-Aα/β expression in KNRK whole cell lysate.



PP2A-Aα/β (H-300): sc-15355. Western blot analysis of PP2A-Aα/β expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Junttila, M.R., et al. 2007. CIP2A inhibits PP2A in human malignancies. Cell 130: 51-62.
2. Sariyer, I.K., et al. 2008. Dephosphorylation of JC virus agnoprotein by protein phosphatase 2A: inhibition by small t antigen. Virology 375: 464-479.
3. Poloz, Y.O., et al. 2009. Determining time of death: temperature-dependent postmortem changes in calcineurin A, MARCKS, CaMKII, and protein phosphatase 2A in mouse. Int. J. Legal Med. 123: 305-314.

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.