

PP2A-A α / β (4C10): sc-81604

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. An additional protein phosphatase catalytic subunit, PPX (also known as PP4), is a putative member of a novel PP family. The PP2A family comprises subfamily members PP2A α and PP2A β . The PP2A catalytic subunit associates with a variety of regulatory subunits. Regulatory subunits include PP2A-A α and -A β , PP2A-B α and -B β , PP2A-C α and -C β , and PP2A-B56 α and -B56 β .

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. *Physiol. 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 NIPP1, 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 19q13.41, PPP2R1B (human) mapping to 11q23.1, Ppp2r1a (mouse) mapping to 17 A3.2, Ppp2r1b (mouse) mapping to 9 A5.3.

SOURCE

PP2A-A α / β (4C10) is a mouse monoclonal antibody raised against His-tagged recombinant peptide corresponding to amino acids 1-168 of PP2A-A α of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PP2A-A α / β (4C10) is recommended for detection of PP2A-A α and PP2A-A β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Molecular Weight of PP2A-A α : 55 kDa.

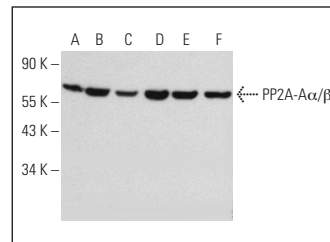
Molecular Weight of PP2A-A β : 65 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or HeLa whole cell lysate: sc-2200.

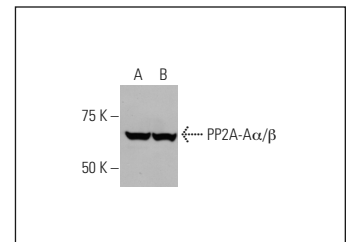
RECOMMENDED SUPPORT REAGENTS

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).

DATA



PP2A-A α / β (4C10): sc-81604. Western blot analysis of PP2A-A α / β expression in HeLa (A), Jurkat (B), RAW 264.7 (C), P19 (D), KNRK (E) and PC-12 (F) whole cell lysates.



PP2A-A α / β (4C10): sc-81604. Western blot analysis of PP2A-A α / β expression in HeLa (A) and NIH/3T3 (B) whole cell lysates. Kindly provided by Drs. Ingrid Mudrak and Egon Ogris.

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.



See **PP2A-A α (6G3): sc-56954** for PP2A-A α antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.