

PP2A-A α (6F9): sc-56953

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 PP2A α and PP2A β . An additional protein phosphatase catalytic subunit, PPX (also known as PP4) is a putative member of a novel PP family. 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 , 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 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 19q13.41; Ppp2r1a (mouse) mapping to 17 A3.2.

SOURCE

PP2A-A α (6F9) is a rat monoclonal antibody raised against the N-terminus of PP2A-A α of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

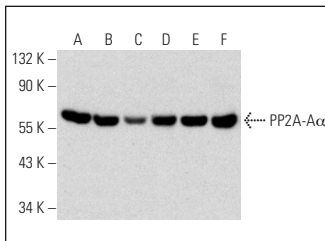
PP2A-A α (6F9) is recommended for detection of PP2A-A α of mouse, rat, human and porcine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PP2A-A α siRNA (h): sc-44033, PP2A-A α siRNA (m): sc-39178, PP2A-A α siRNA (r): sc-270192, PP2A-A α shRNA Plasmid (h): sc-44033-SH, PP2A-A α shRNA Plasmid (m): sc-39178-SH, PP2A-A α shRNA Plasmid (r): sc-270192-SH, PP2A-A α shRNA (h) Lentiviral Particles: sc-44033-V, PP2A-A α shRNA (m) Lentiviral Particles: sc-39178-V and PP2A-A α shRNA (r) Lentiviral Particles: sc-270192-V.

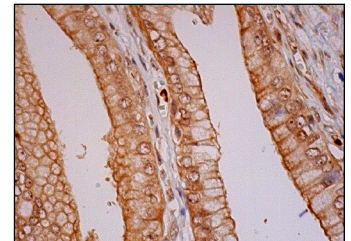
Molecular Weight of PP2A-A α : 65 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243, Jurkat whole cell lysate: sc-2204 or RAW 264.7 whole cell lysate: sc-2211.

DATA



PP2A-A α (6F9): sc-56953. Western blot analysis of PP2A-A α expression in 3T3-L1 (A), Jurkat (B), Hep G2 (C), RAW 264.7 (D), EOC 20 (E) and KNRK (F) whole cell lysates.



PP2A-A α (6F9): sc-56953. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic, membrane and nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS


1. Wu, J., et al. 2015. MicroRNA-30 family members regulate calcium/calcineurin signaling in podocytes. *J. Clin. Invest.* 125: 4091-4106.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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, Alexa Fluor[®] 488 and Alexa Fluor[®] 647.