

# PP2A-C $\alpha$ / $\beta$ (1D6): sc-80665

## 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 $\alpha$  and PP2A $\beta$ . The PP2A catalytic subunit associates with a variety of regulatory subunits. Regulatory subunits include PP2A-A $\alpha$  and -A $\beta$ , PP2A-B $\alpha$  and -B $\beta$ , PP2A-C $\alpha$  and -C $\beta$ , and PP2A-B56 $\alpha$  and -B56 $\beta$ .

## CHROMOSOMAL LOCATION

Genetic locus: PPP2CA (human) mapping to 5q31.1, PPP2CB (human) mapping to 8p12; Ppp2ca (mouse) mapping to 11 B1.3, Ppp2cb (mouse) mapping to 8 A4.

## SOURCE

PP2A-C $\alpha$ / $\beta$  (1D6) is a mouse monoclonal antibody raised against amino acids 295-309 of PP2A-C $\alpha$ / $\beta$  of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PP2A-C $\alpha$ / $\beta$  (1D6) is available conjugated to agarose (sc-80665 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-80665 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-80665 PE), fluorescein (sc-80665 FITC), Alexa Fluor® 488 (sc-80665 AF488), Alexa Fluor® 546 (sc-80665 AF546), Alexa Fluor® 594 (sc-80665 AF594) or Alexa Fluor® 647 (sc-80665 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-80665 AF680) or Alexa Fluor® 790 (sc-80665 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

PP2A-C $\alpha$ / $\beta$  (1D6) is recommended for detection of PP2A-C $\alpha$ / $\beta$  of mouse, rat, human, bovine, porcine, canine and zebrafish 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); to demethylate, treat with 100mM NaOH on ice.

Molecular Weight of PP2A-C $\alpha$ / $\beta$ : 36 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-673 cell lysate: sc-2414 or MCF7 whole cell lysate: sc-2206.

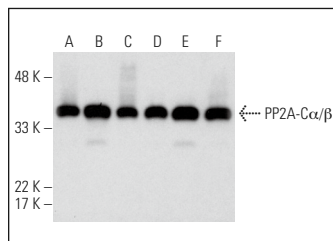
## RESEARCH USE

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

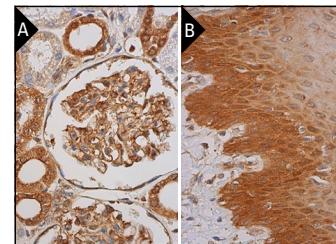
## STORAGE

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

## DATA



PP2A-C $\alpha$ / $\beta$  (1D6) HRP: sc-80665 HRP. Direct western blot analysis of PP2A-C $\alpha$ / $\beta$  expression in NIH/3T3 (A), A-673 (B), MCF7 (C), HeLa (D), U-937 (E) and Hep G2 (F) whole cell lysates.



PP2A-C $\alpha$ / $\beta$  (1D6): sc-80665. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic, membrane and nuclear staining of cells in glomeruli and cytoplasmic and nuclear staining of cells in tubules (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic and nuclear staining of squamous epithelial cells (B).

## SELECT PRODUCT CITATIONS

- Rizzolio, F., et al. 2012. Retinoblastoma tumor-suppressor protein phosphorylation and inactivation depend on direct interaction with Pin1. *Cell Death Differ.* 19: 1152-1161.
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- Zhang, X.J., et al. 2021. Pharmacological inhibition of arachidonate 12-lipoxygenase ameliorates myocardial ischemia-reperfusion injury in multiple species. *Cell Metab.* 33: 2059-2075.e10.
- Liu, H., et al. 2022. FBXL16 promotes endometrial progesterone resistance via PP2AB55 $\alpha$ /cyclin D1 axis in Ishikawa. *J. Immunol. Res.* 2022: 7372202.
- Fujiwara, K., et al. 2023. The crucial role of single-stranded DNA binding in enhancing sensitivity to DNA-damaging agents for Schlafen 11 and Schlafen 13. *iScience* 26: 108529.
- Rehmani, T., et al. 2024. Deletion of sarcolemmal membrane-associated protein isoform 3 (SLMAP3) in cardiac progenitors delays embryonic growth of myocardium without affecting hippo pathway. *Int. J. Mol. Sci.* 25: 2888.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.