

demethylated-PP2A-C (4B7): sc-13601

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 catalytic subunit is a protein that 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 .

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

demethylated-PP2A-C (4B7) is a mouse monoclonal antibody raised against the unmethylated C-terminal region of the PP2A-C subunit.

PRODUCT

Each vial contains 100 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

demethylated-PP2A-C (4B7) is available conjugated to agarose (sc-13601 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13601 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13601 PE), fluorescein (sc-13601 FITC), Alexa Fluor[®] 488 (sc-13601 AF488), Alexa Fluor[®] 546 (sc-13601 AF546), Alexa Fluor[®] 594 (sc-13601 AF594) or Alexa Fluor[®] 647 (sc-13601 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-13601 AF680) or Alexa Fluor[®] 790 (sc-13601 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

demethylated-PP2A-C (4B7) is recommended for detection of demethylated-PP2A-C of mouse, rat, human, *Drosophila melanogaster*, *Xenopus* and *S. pombe* 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); to demethylate, treat with 100mM NaOH on ice.

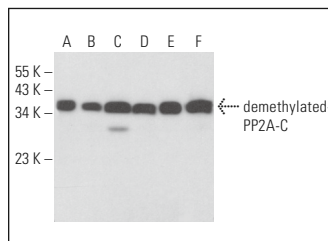
Molecular Weight of demethylated-PP2A-C: 36 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, U-937 cell lysate: sc-2239 or MCF7 whole cell lysate: sc-2206.

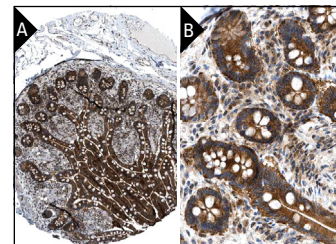
STORAGE

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

DATA



demethylated-PP2A-C (4B7): sc-13601. Western blot analysis of demethylated-PP2A-C expression in MCF7 (A), A-431 (B), U-937 (C), HL-60 (D), MOLT-4 (E) and KNRK (F) whole cell lysates.



demethylated-PP2A-C (4B7): sc-13601. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

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- Peng, B., et al. 2015. CIP2A regulates cancer metabolism and CREB phosphorylation in non-small cell lung cancer. *Mol. Biosyst.* 11: 105-114.
- Xu, C., et al. 2016. Rapamycin ameliorates cadmium-induced activation of MAPK pathway and neuronal apoptosis by preventing mitochondrial Ros inactivation of PP2A. *Neuropharmacology* 105: 270-284.
- Yabe, R., et al. 2018. A stable association with PME-1 may be dispensable for PP2A demethylation—implications for the detection of PP2A methylation and immunoprecipitation. *FEBS Open Bio.* 8: 1486-1496.
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- Diering, S., et al. 2020. Receptor-independent modulation of cAMP-dependent protein kinase and protein phosphatase signaling in cardiac myocytes by oxidizing agents. *J. Biol. Chem.* 295: 15342-15365.
- Ikeda, S., et al. 2020. Involvement of PP2A methylation in the adipogenic differentiation of bone marrow derived mesenchymal stem cell. *J. Biochem.* 168: 643-650.

RESEARCH USE

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