SANTA CRUZ BIOTECHNOLOGY, INC.

demethylated-PP2A-C (4i57): sc-80990

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. 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-Aα and -Aβ, PP2A-Bα and -Bβ, PP2A-Cα and -Cβ, PP2A-B56α and -B56β.

CHROMOSOMAL LOCATION

Genetic locus: PPP2CB (human) mapping to 8p12; Ppp2cb (mouse) mapping to 8 A4.

SOURCE

demethylated-PP2A-C (4i57) is a mouse monoclonal antibody raised against the unmethylated C-terminal region of the PP2A-C subunit.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

demethylated-PP2A-C (4i57) is recommended for detection of demethylated-PP2A-C of mouse, rat, human, *Drosophila, Xenopus* and *S. pombe* 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); to demethylate, treat with 100 mM NaOH on ice.

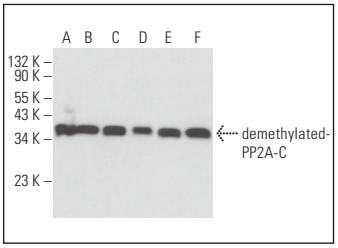
Molecular Weight of demethylated-PP2A-C: 36 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, NIH/3T3 whole cell lysate: sc-2210 or KNRK whole cell lysate: sc-2214.

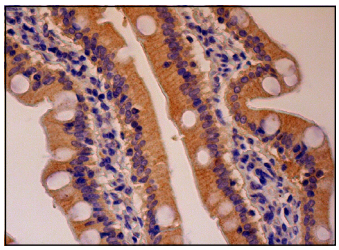
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



demethylated-PP2A-C (4i57): sc-80990. Western blot analysis of demethylated-PP2A-C expression in KNRK (**A**), NIH/3T3 (**B**), K-562 (**C**), HeLa (**D**), HL-60 (**E**) and MCF7 (**F**) whole cell lysates.



demethylated-PP2A-C (4i57): sc-80990. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Li, J., et al. 2014. Genetic amplification of PPME1 in gastric and lung cancer and its potential as a novel therapeutic target. Cancer Biol. Ther. 15: 128-134.
2. Kataya, A.R., et al. 2015. Protein phosphatase 2A holoenzyme is targeted to peroxisomes by piggybacking and positively affects peroxisomal β-oxidation. Plant Physiol. 167: 493-506.
3. Creighton, M.T., et al. 2017. Light regulation of nitrate reductase by catalytic subunits of protein phosphatase 2A. Planta 246: 701-710.
4. Creighton, M.T., et al. 2017. Methylation of protein phosphatase 2A-influence of regulators and environmental stress factors. Plant Cell Environ. 40: 2347-2358.
5. Jiang, Y., et al. 2020. Effect of peripheral Insulin administration on phosphorylation of Tau in the brain. J. Alzheimers Dis. 75: 1377-1390.
6. Wang, M., et al. 2024. LincR-PPP2R5C regulates IL-1β ubiquitination in macrophages and promotes airway inflammation and emphysema in a murine model of COPD. Int. Immunopharmacol. 139: 112680.

CONJUGATES

See **demethylated-PP2A-C (4B7): sc-13601** for demethylated-PP2A-C antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.