

PP2A-C α / β (G-4): sc-166034

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 .

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 α / β (G-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 275-309 at the C-terminus of PP2A-C α / β of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166034 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PP2A-C α / β (G-4) is recommended for detection of PP2A-C α / β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PP2A-C α / β (G-4) is also recommended for detection of PP2A-C α / β in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of PP2A-C α / β : 36 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, K-562 whole cell lysate: sc-2203 or MCF7 whole cell lysate: sc-2206.

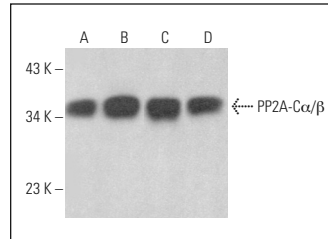
STORAGE

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

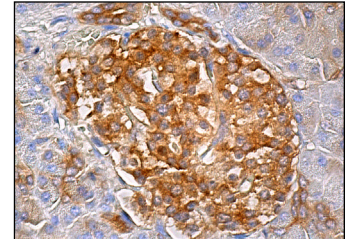
RESEARCH USE

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

DATA



PP2A-C α / β (G-4): sc-166034. Western blot analysis of PP2A-C α / β expression in K-562 (A), HeLa (B), KNRK (C) and MCF7 (D) whole cell lysates.



PP2A-C α / β (G-4): sc-166034. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans and glandular cells.

SELECT PRODUCT CITATIONS

- Eroglu, B., et al. 2010. Loss of HSP 110 leads to age-dependent Tau hyperphosphorylation and early accumulation of insoluble Amyloid β . *Mol. Cell. Biol.* 30: 4626-4643.
- Valin, A., et al. 2013. Transcription factor Sp3 represses expression of p21^{CIP1} via inhibition of productive elongation by RNA polymerase II. *Mol. Cell. Biol.* 33: 1582-1593.
- Amsailale, R., et al. 2014. Protein phosphatase 2A regulates deoxycytidine kinase activity via Ser-74 dephosphorylation. *FEBS Lett.* 588: 727-732.
- Frohner, I.E., et al. 2020. Antibodies recognizing the C terminus of PP2A catalytic subunit are unsuitable for evaluating PP2A activity and holoenzyme composition. *Sci. Signal.* 13: eaax6490.
- Wang, X., et al. 2022. RPAP2 regulates a transcription initiation checkpoint by inhibiting assembly of pre-initiation complex. *Cell Rep.* 39: 110732.
- Onder, S., et al. 2022. Toluidine blue O attenuates tau phosphorylation in N2a-APP^{Swe} cells. *Chem. Biol. Interact.* 366: 110126.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **PP2A-C α / β (1D6): sc-80665** for PP2A-C α / β antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.