SANTA CRUZ BIOTECHNOLOGY, INC.

PP2A-Cα/β (7A6): sc-81601

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 family comprises subfamily members PP2Aα and PP2Aβ. 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, and 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. Mumby, M.C., et al. 1993. Protein serine/threonine phosphatases: structure, regulation and functions in cell growth. Physiol. Rev. 73: 673-699.

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-Cα/β (7A6) is a mouse monoclonal antibody raised against unmethylated C-terminal amino acids 302-309 of PP2A-C of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PP2A-Cα/β (7A6) is recommended for detection of PP2A-C α and β isoforms of mouse, rat, human, chicken, *Drosophila melanogaster*, yeast *(S. cerevisiae* and *S. pombe)* and *Arabidopsis thaliana* 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)] and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

PP2A-Cα/β (T-19) is also recommended for detection of PP2A-C α and β isoforms in additional species, including rabbit and porcine.

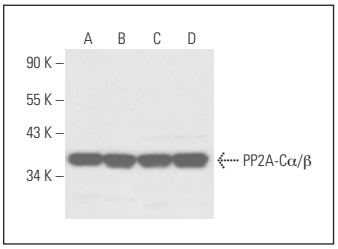
Molecular Weight of PP2A-Cα/β: 36 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HL-60 whole cell lysate: sc-2209 or K-562 whole cell lysate: sc-2203.

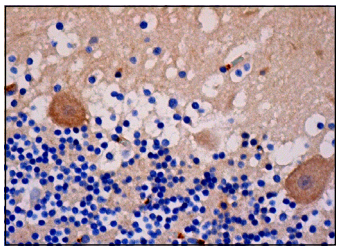
RECOMMENDED SUPPORT REAGENTS

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) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PP2A-Cα/β (7A6): sc-81601. Western blot analysis of PP2A-Cα/β expression in HeLa (**A**), HL-60 (**B**), K-562 (**C**) and Daudi (**D**) whole cell lysates.



PP2A-Cα/β (7A6): sc-81601. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells.

SELECT PRODUCT CITATIONS

1. Tamrakar, P., et al. 2015. Estrogen regulates energy metabolic pathway and upstream adenosine 5'-monophosphate-activated protein kinase and phosphatase enzyme expression in dorsal vagal complex metabolosensory neurons during glucostasis and hypoglycemia. J. Neurosci. Res. 93: 321-332.
2. Briski, K.P., et al. 2017. Hindbrain A2 noradrenergic neuron adenosine 5'-monophosphate-activated protein kinase activation, upstream kinase/phosphorylase protein expression, and receptivity to hormone and fuel reporters of short-term food deprivation are regulated by estradiol. J. Neurosci. Res. 95: 1427-1437.
3. Tamrakar, P. and Briski, K.P. 2017. Impact of recurrent hypoglycemic stress on hindbrain A2 nerve cell energy metabolism and catecholamine biosynthesis: modulation by estradiol. Acta Neurobiol. Exp. 77: 31-44.
4. Snyers, L., et al. 2018. LEM4/ANKLE-2 deficiency impairs post-mitotic re-localization of BAF, LAP2α and LaminA to the nucleus, causes nuclear envelope instability in telophase and leads to hyperploidy in HeLa cells. Eur. J. Cell Biol. 97: 63-74.

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.