SANTA CRUZ BIOTECHNOLOGY, INC.

PP2A-Cα/β (C-20): sc-6110

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-B56α and -B56β.

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 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PP2A-Cα/β of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6110 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PP2A-Cα/β (C-20) is recommended for detection of PP2A-Cα/β of mouse, rat and human 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), 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-Cα/β (C-20) is also recommended for detection of PP2A-Cα/β in additional species, including equine, canine, bovine, porcine and avian.

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

Positive Controls: Jurkat whole cell lysate: sc-2204, MCF7 whole cell lysate: sc-2206 or PP2A-Cα (h): 293T Lysate: sc-114598.

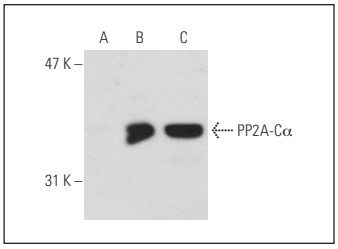
STORAGE

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

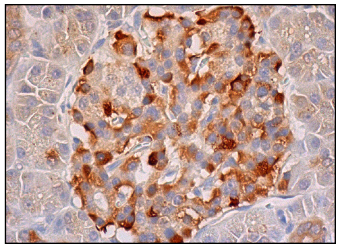
RESEARCH USE

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

DATA



PP2A-Cα/β (C-20): sc-6110. Western blot analysis of PP2A-Cα expression in non-transfected 293T: sc-117752 (**A**), human PP2A-Cα transfected 293T: sc-114598 (**B**) and MCF7 (**C**) whole cell lysates.



PP2A-Cα/β (C-20): sc-6110. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islet of Langerhans and glandular cells.

SELECT PRODUCT CITATIONS

1. Wang, S.S., et al. 1998. Alterations of the PPP2R1B gene in human lung and colon cancer. Science 282: 284-287.
2. Junttila, M.R., et al. 2007. CIP2A inhibits PP2A in human malignancies. Cell 130: 51-62.
3. Middleton, L.S., et al. 2007. Nicotine increases dopamine transporter function in rat striatum through a trafficking-independent mechanism. Eur. J. Pharmacol. 554: 128-136.
4. Wang, X., et al. 2008. IPP5, a novel protein inhibitor of protein phosphatase 1, promotes G_1/S progression in a Thr-40-dependent manner. J. Biol. Chem. 283: 12076-12084.
5. Vilà, L., et al. 2008. Suppressor of cytokine signaling-3 (SOCS-3) and a deficit of serine/threonine (Ser/Thr) phosphoproteins involved in leptin transduction mediate the effect of fructose on rat liver lipid metabolism. Hepatology 48: 1506-1516.
6. Ayon, R., et al. 2009. Complex phosphatase regulation of Ca^{2+}-activated Cl^- currents in pulmonary arterial smooth muscle cells. J. Biol. Chem. 284: 32507-32521.
7. Cheng, B., et al. 2009. Responses of vascular smooth muscle cells to estrogen are dependent on balance between ERK and p38 MAPK pathway activities. Int. J. Cardiol. 134: 356-365.
8. Penna, F., et al. 2010. Muscle atrophy in experimental cancer cachexia: is the IGF-1 signaling pathway involved? Int. J. Cancer 127: 1706-1717.