SANTA CRUZ BIOTECHNOLOGY, INC.

PP2A-B56-β (C-19): sc-6117

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. The PP2A family comprises subfamily members PP2Aα and PP2Aβ. 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, and PP2A-B56α and -B56β.

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. Cohen, P.T. 1993. Important roles for novel protein phosphatases dephosphorylating serine and threonine residues. Biochem. Soc. Trans. 21: 884-888.
3. Mumby, M.C., et al. 1993. Protein serine/threonine phosphatases: structure, regulation, and functions in cell growth. Phys. Rev. 73: 673-699.
4. Okubo, S., et al. 1994. A regulatory subunit of smooth muscle myosin bound phosphatase. Biochem. Biophys. Res. Commun. 200: 429-434.
5. Wera, S., et al.1995. Serine/threonine protein phosphatases. Biochem. J. 311: 17-29.

CHROMOSOMAL LOCATION

Genetic locus: PPP2R5B (human) mapping to 11q13.1; Ppp2r5b (mouse) mapping to 19 A.

SOURCE

PP2A-B56-β (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PP2A-B56-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-6117 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

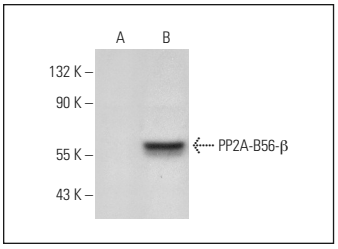
PP2A-B56-β (C-19) is recommended for detection of PP2A-B56-β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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-B56-β (C-19) is also recommended for detection of PP2A-B56-β in additional species, including equine and canine.

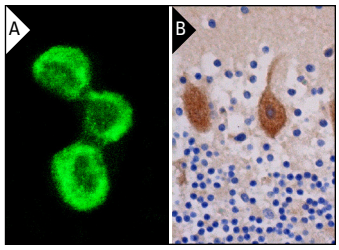
Suitable for use as control antibody for PP2A-B56-β siRNA (h): sc-39183, PP2A-B56-β siRNA (m): sc-39184, PP2A-B56-β shRNA Plasmid (h): sc-39183-SH, PP2A-B56-β shRNA Plasmid (m): sc-39184-SH, PP2A-B56-β shRNA (h) Lentiviral Particles: sc-39183-V and PP2A-B56-β shRNA (m) Lentiviral Particles: sc-39184-V.

Positive Controls: KNRK whole cell lysate: sc-2214 or PP2A-B56-β (h): 293T Lysate: sc-370053.

DATA



PP2A-B56-β (C-19): sc-6117. Western blot analysis of PP2A-B56-β expression in non-transfected: sc-117752 (**A**) and human PP2A-B56-β transfected: sc-370053 (**B**) 293T whole cell lysates.



PP2A-B56-β (C-19): sc-6117. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells (**B**).

SELECT PRODUCT CITATIONS

1. Li, H.H., et al. 2004. Phosphorylation on Thr-55 by TAF1 mediates degradation of p53: A role for TAF1 in cell G_1 progression. Mol. Cell 13: 867-878.
2. Li, H.H., et al. 2007. A specific PP2A regulatory subunit, B56γ, mediates DNA damage-induced dephosphorylation of p53 at Thr55. EMBO J. 26: 402-411.
3. Sablina, A.A., et al. 2010. Identification of PP2A complexes and pathways involved in cell transformation. Cancer Res. 70: 10474-10484.