SANTA CRUZ BIOTECHNOLOGY, INC.

PP2A-B55 (C-18): sc-18330

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. The B family of regulatory subunits (including B55, B56 and PR72/130 subfamilies) is believed to participate in substrate specificity and catalytic activity. PP2A-B55, also known as PP2A regulatory subunit subfamily B55 or PP2A-B1, is a B subfamily consisting of four B55 isoforms (α, β, γ and δ) encoded by four distinct genes.

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.

SOURCE

PP2A-B55 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PP2A-B55-δ 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-18330 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PP2A-B55 (C-18) is recommended for detection of PP2A-B55-α, -β, -γ and -δ isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1,000), 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3,000).

PP2A-B55 (C-18) is also recommended for detection of PP2A-B55-α, -β, -γ and -δ isoforms in additional species, including equine, canine, bovine, porcine and avian.

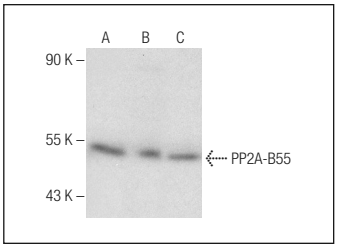
Molecular Weight of PP2A-B55: 55 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, IMR-32 cell lysate: sc-2409 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

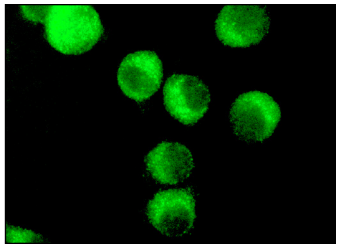
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PP2A-B55 (C-18): sc-18330. Western blot analysis of PP2A-B55 expression in KNRK (**A**), IMR-32 (**B**) and NTERA-2 cl.D1 (**C**) whole cell lysates.



PP2A-B55 (C-18): sc-18330. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Yin, K.J., et al. 2006. Protein phosphatase 2A regulates Bim expression via the Akt/FKHRL1 signaling pathway in amyloid-β peptide-induced cerebrovascular endothelial cell death. J. Neurosci. 26: 2290-2299.
2. Jung, S., et al. 2011. Effect of PP2A on p34SEI-1 expression in response to ionizing radiation in MCF-7 human breast cancer cells. Int. J. Oncol. 38: 1475-1482.

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 or our catalog for detailed protocols and support products.