

# PP2A-B55 (H-300): sc-33191

## 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 $\alpha$  and PP2A $\beta$ . 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 ( $\alpha$ ,  $\beta$ ,  $\gamma$  and  $\delta$ ) 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.
3. Hendrix, P., et al. 1993. Structure and expression of a 72 kDa regulatory subunit of protein phosphatase 2A. Evidence for different size forms produced by alternative splicing. *J. Biol. Chem.* 268: 15267-15276.
4. Cohen, P.T. 1993. Important roles for novel protein phosphatases dephosphorylating serine and threonine residues. *Biochem. Soc. Trans.* 21: 884-888.
5. Okubo, S., et al. 1994. A regulatory subunit of smooth muscle myosin bound phosphatase. *Biochem. Biophys. Res. Commun.* 200: 429-434.
6. Wera, S., et al. 1995. Serine/threonine protein phosphatases. *Biochem. J.* 311: 17-29.
7. Van Eynde, A., et al. 1995. Molecular cloning of NIPP-1, a nuclear inhibitor of protein phosphatase-1, reveals homology with polypeptides involved in RNA processing. *J. Biol. Chem.* 270: 28068-28074.
8. Strack, S., et al. 1998. Brain protein phosphatase 2A: developmental regulation and distinct cellular and subcellular localization by B subunits. *J. Comp. Neurol.* 392: 515-527.

## SOURCE

PP2A-B55 (H-300) is a rabbit polyclonal antibody raised against amino acids 148-447 mapping at the C-terminus of PP2A-B55 $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

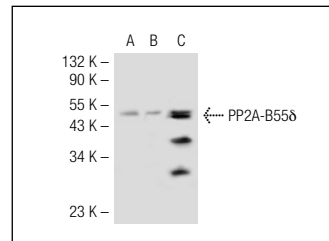
PP2A-B55 (H-300) is recommended for detection of PP2A-B55- $\alpha$ , - $\beta$ , - $\gamma$  and - $\delta$  isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 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 1:30-1:3000).

PP2A-B55 (H-300) is also recommended for detection of PP2A-B55- $\alpha$ , - $\beta$ , - $\gamma$  and - $\delta$  isoforms in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of PP2A-B55: 55 kDa.

Positive Controls: PP2A-B55- $\delta$  (h): 293T Lysate: sc-111449 or KNRK whole cell lysate: sc-2214.

## DATA



PP2A-B55 (H-300): sc-33191. Western blot analysis of PP2A-B55 $\delta$  expression in non-transfected 293T: sc-117752 (A), human PP2A-B55 $\delta$  transfected 293T: sc-111449 (B) and KNRK (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Jayadeva, G., et al. 2010. B55 $\alpha$  PP2A holoenzymes modulate the phosphorylation status of the retinoblastoma-related protein p107 and its activation. *J. Biol. Chem.* 285: 29863-29873.
2. Cilli, D., et al. 2014. Identification of the interactors of human nibrin (NBN) and of its 26 kDa and 70 kDa fragments arising from the NBN 657del5 founder mutation. *PLoS ONE* 9: e114651.

## 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.



Try **PP2A-B55 (D-10): sc-365282** or **PP2A-B55- $\alpha$  (2G9): sc-81606**, our highly recommended monoclonal alternatives to PP2A-B55 (H-300).