SANTA CRUZ BIOTECHNOLOGY, INC.

PP2A-Aβ (C-20): sc-6113

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.

CHROMOSOMAL LOCATION

Genetic locus: PPP2R1B (human) mapping to 11q23.1.

SOURCE

PP2A-Aβ (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PP2A-Aβ 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-6113 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PP2A-Aβ (C-20) is recommended for detection of PP2A-Aβ of 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); may cross react with PP2A-Aα.

PP2A-Aβ (C-20) is also recommended for detection of PP2A-Aβ in additional species, including canine and porcine.

Suitable for use as control antibody for PP2A-Aβ siRNA (h): sc-39179, PP2A-Aβ shRNA Plasmid (h): sc-39179-SH and PP2A-Aβ shRNA (h) Lentiviral Particles: sc-39179-V.

Molecular Weight of PP2A-Aα: 55 kDa.

Molecular Weight of PP2A-Aβ: 65 kDa.

Positive Controls: H4 cell lysate: sc-2408, SW480 cell lysate: sc-2219 or Jurkat whole cell lysate: sc-2204.

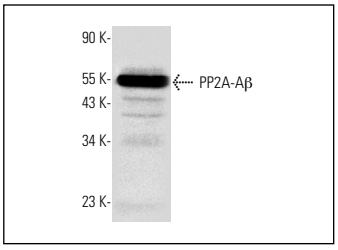
RESEARCH USE

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

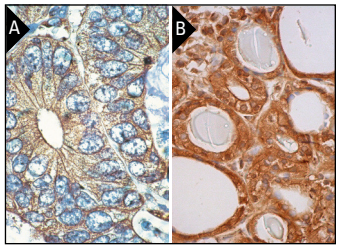
STORAGE

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

DATA



PP2A-Aβ (C-20): sc-6113. Western blot analysis of PP2A-Aβ expression in Jurkat whole cell lysate.



PP2A-Aβ (C-20): sc-6113. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon carcinoma tissue showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic, membrane and nuclear staining of glandular cells (**B**).

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. Goodarzi, A.A., et al. 2004. Autophosphorylation of ataxia-telangiectasia mutated is regulated by protein phosphatase 2A. EMBO J. 23: 4451-4461.
3. Jayadeva, G., et al. 2010. B55α PP2A holoenzymes modulate the phosphorylation status of the retinoblastoma-related protein p107 and its activation. J. Biol. Chem. 285: 29863-29873.
4. Clarke, C.J., et al. 2011. Neutral sphingomyelinase-2 mediates growth arrest by retinoic acid through modulation of ribosomal S6 kinase. J. Biol. Chem. 286: 21565-21576.
5. Kurimchak, A., et al. 2013. Activation of p107 by FGF, which is essential for chondrocyte cell cycle exit, is mediated by the PP2A/B55α holoenzyme. Mol. Cell. Biol. 33: 3330-3342.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.