SANTA CRUZ BIOTECHNOLOGY, INC.

PP2A-B56-α (C-18): sc-6116

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. 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: PPP2R5A (human) mapping to 1q32.3; Ppp2r5a (mouse) mapping to 1 H6.

SOURCE

PP2A-B56-α (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PP2A-B56-α 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-6116 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PP2A-B56-α (C-18) is recommended for detection of PP2A-B56-α 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-α (C-18) is also recommended for detection of PP2A-B56-α in additional species, including equine, canine and porcine.

Suitable for use as control antibody for PP2A-B56-α siRNA (h): sc-39181, PP2A-B56-α siRNA (m): sc-39182, PP2A-B56-α shRNA Plasmid (h): sc-39181-SH, PP2A-B56-α shRNA Plasmid (m): sc-39182-SH, PP2A-B56-α shRNA (h) Lentiviral Particles: sc-39181-V and PP2A-B56-α shRNA (m) Lentiviral Particles: sc-39182-V.

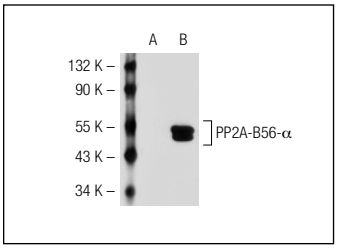
Molecular Weight of PP2A-B56-α: 56 kDa.

Positive Controls: PP2A-B56-α (h): 293T Lysate: sc-112024, A-10 cell lysate: sc-3806 or C2C12 whole cell lysate: sc-364188.

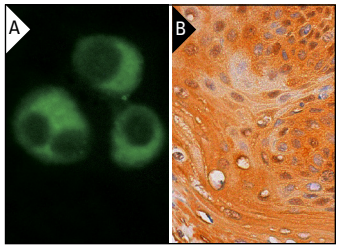
STORAGE

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

DATA



PP2A-B56-α (C-18): sc-6116. Western blot analysis of PP2A-B56-α expression in non-transfected: sc-117752 (**A**) and human PP2A-B56-α transfected: sc-112024 (**B**) 293T whole cell lysates.



PP2A-B56-α (C-18): sc-6116. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing cytoplasmic and nuclear staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Chen, W., et al. 2004. Identification of specific PP2A complexes involved in human cell transformation. Cancer Cell 5: 127-136.
2. 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.
3. 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.
4. Deshmukh, P.A., et al. 2007. Acute modulation of PP2A and troponin I phosphorylation in ventricular myocytes: studies with a novel PP2A peptide inhibitor. Am. J. Physiol. Heart Circ. Physiol. 292: H792-H799.
5. Abolhassani, M., et al. 2008. Hyperosmolarity causes inflammation through the methylation of protein phosphatase 2A. Inflamm. Res. 57: 419-429.
6. Yang, X., et al. 2009. Repression of PKR mediates palmitate-induced apoptosis in Hep G2 cells through regulation of Bcl-2. Cell Res. 19: 469-486.

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.