SANTA CRUZ BIOTECHNOLOGY, INC.

PP2A-B56-γ (E-6): sc-374380

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. Regulatory subunits include PP2A-A-α and -A-β, PP2A-B-α and -B-β, PP2A-C-α and -C-β, PP2A-B56-α, -B56-β, -B56-γ and -B56-δ.

CHROMOSOMAL LOCATION

Genetic locus: PPP2R5C (human) mapping to 14q32.31; Ppp2r5c (mouse) mapping to 12 F1.

SOURCE

PP2A-B56-γ (E-6) is a mouse monoclonal antibody raised against amino acids 431-470 mapping near the C-terminus of PP2A-B56-γ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PP2A-B56-γ (E-6) is available conjugated to agarose (sc-374380 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374380 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374380 PE), fluorescein (sc-374380 FITC), Alexa Fluor® 488 (sc-374380 AF488), Alexa Fluor® 546 (sc-374380 AF546), Alexa Fluor® 594 (sc-374380 AF594) or Alexa Fluor® 647 (sc-374380 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374380 AF680) or Alexa Fluor® 790 (sc-374380 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PP2A-B56-γ (E-6) is recommended for detection of PP2A-B56-γ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

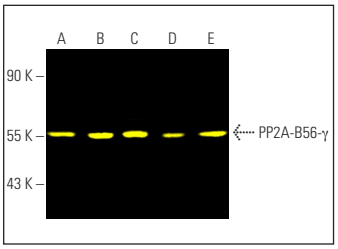
Suitable for use as control antibody for PP2A-B56-γ siRNA (h): sc-45847, PP2A-B56-γ siRNA (m): sc-45848, PP2A-B56-γ shRNA Plasmid (h): sc-45847-SH, PP2A-B56-γ shRNA Plasmid (m): sc-45848-SH, PP2A-B56-γ shRNA (h) Lentiviral Particles: sc-45847-V and PP2A-B56-γ shRNA (m) Lentiviral Particles: sc-45848-V.

Molecular Weight of PP2A-B56-γ: 61 kDa.

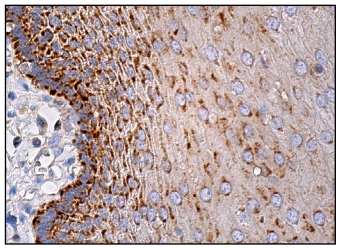
STORAGE

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

DATA



PP2A-B56-γ (E-6) Alexa Fluor® 488: sc-374380 AF488. Direct fluorescent western blot analysis of PP2A-B56-γ expression in Jurkat (**A**), MDA-MB-231 (**B**), U-698-M (**C**), Daudi (**D**) and SH-SY5Y (**E**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



PP2A-B56-γ (E-6): sc-374380. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Espert, A., et al. 2014. PP2A-B56 opposes Mps1 phosphorylation of Knl1 and thereby promotes spindle assembly checkpoint silencing. J. Cell Biol. 206: 833-842.
2. Cundell, M.J., et al. 2016. A PP2A-B55 recognition signal controls substrate dephosphorylation kinetics during mitotic exit. J. Cell Biol. 214: 539-554.
3. De Palma, R.M., et al. 2019. The NMR-based characterization of the FTY720-SET complex reveals an alternative mechanism for the attenuation of the inhibitory SET-PP2A interaction. FASEB J. 33: 7647-7666.
4. Leonard, D., et al. 2020. Selective PP2A enhancement through biased heterotrimer stabilization. Cell 181: 688-701.e16.
5. Adam, S., et al. 2021. The CIP2A-TOPBP1 axis safeguards chromosome stability and is a synthetic lethal target for BRCA-mutated cancer. Nat. Cancer 2: 1357-1371.
6. Gnoni, A., et al. 2022. Quercetin reduces lipid accumulation in a cell model of NAFLD by inhibiting *de novo* fatty acid synthesis through the acetyl-CoA carboxylase 1/AMPK/PP2A axis. Int. J. Mol. Sci. 23: 1044.
7. Ripamonti, M., et al. 2022. A functional interaction between liprin-α1 and B56γ regulatory subunit of protein phosphatase 2A supports tumor cell motility. Commun. Biol. 5: 1025.
8. Pavic, K., et al. 2023. Structural mechanism for inhibition of PP2A-B56α and oncogenicity by CIP2A. Nat. Commun. 14: 1143.

RESEARCH USE

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

PROTOCOLS

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