SANTA CRUZ BIOTECHNOLOGY, INC.

PPP2R5E (A-11): sc-376176

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. PPP2R5E (protein phosphatase 2, regulatory subunit B', ε isoform) is a 467 amino acid protein that localizes to the cytoplasm and exists as an isoform of the B regulatory subunit within the PP multimeric complex. Functioning as a regulatory subunit, PPP2R5E is thought to modulate both the catalytic activity and the substrate specificity of the PP holoenzyme and may also be responsible for the localization of the complex to subcellular compartments.

REFERENCES

1. McCright, B., et al. 1995. Identification of a new family of protein phosphatase 2A regulatory subunits. J. Biol. Chem. 270: 26123-26128.
2. McCright, B., et al. 1996. Assignment of human protein phosphatase 2A regulatory subunit genes b56α, b56β, b56γ, b56δ, and b56ε (PPP2R5A-PPP2R5E), highly expressed in muscle and brain, to chromosome regions 1q41, 11q12, 3p21, 6p21.1, and 7p11.2→p12. Genomics 36: 168-170.
3. McCright, B., et al. 1996. The B56 family of protein phosphatase 2A (PP2A) regulatory subunits encodes differentiation-induced phosphoproteins that target PP2A to both nucleus and cytoplasm. J. Biol. Chem. 271: 22081-22089.
4. Dozier, C., et al. 2004. Regulation of Chk2 phosphorylation by interaction with protein phosphatase 2A via its B' regulatory subunit. Biol. Cell 96: 509-517.

CHROMOSOMAL LOCATION

Genetic locus: PPP2R5E (human) mapping to 14q23.2; Ppp2r5e (mouse) mapping to 12 C3.

SOURCE

PPP2R5E (A-11) is a mouse monoclonal antibody raised against amino acids 183-264 mapping within an internal region of PPP2R5E of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PPP2R5E (A-11) is available conjugated to agarose (sc-376176 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376176 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376176 PE), fluorescein (sc-376176 FITC), Alexa Fluor® 488 (sc-376176 AF488), Alexa Fluor® 546 (sc-376176 AF546), Alexa Fluor® 594 (sc-376176 AF594) or Alexa Fluor® 647 (sc-376176 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376176 AF680) or Alexa Fluor® 790 (sc-376176 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PPP2R5E (A-11) is recommended for detection of PPP2R5E 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).

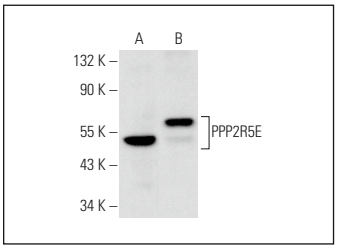
PPP2R5E (A-11) is also recommended for detection of PPP2R5E in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PPP2R5E siRNA (h): sc-92446, PPP2R5E siRNA (m): sc-152427, PPP2R5E shRNA Plasmid (h): sc-92446-SH, PPP2R5E shRNA Plasmid (m): sc-152427-SH, PPP2R5E shRNA (h) Lentiviral Particles: sc-92446-V and PPP2R5E shRNA (m) Lentiviral Particles: sc-152427-V.

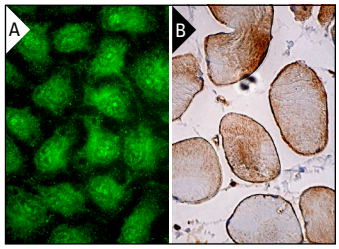
Molecular Weight of PPP2R5E: 55 kDa.

Positive Controls: human kidney extract: sc-363764 or C3H/10T1/2 cell lysate: sc-3801.

DATA



PPP2R5E (A-11): sc-376176. Western blot analysis of PPP2R5E expression in human kidney tissue extract (**A**) and C3H/10T1/2 whole cell lysate (**B**).



PPP2R5E (A-11): sc-376176. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic and membrane staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Hayward, D., et al. 2019. Checkpoint signaling and error correction require regulation of the MPS1 T-loop by PP2A-B56. J. Cell Biol. 218: 3188-3199.
2. Lear, T.B., et al. 2020. Kelch-like protein 42 is a pro-fibrotic ubiquitin E3 ligase involved in in systemic sclerosis. J. Biol. Chem. 295: 4171-4180.
3. Yee, Y.H., et al. 2021. Sustained IKKβ phosphorylation and NFκB activation by superoxide-induced peroxynitrite-mediated nitrotyrosine modification of B56γ3 and PP2A inactivation. Redox Biol. 41: 101834.

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.