SANTA CRUZ BIOTECHNOLOGY, INC.

PPP2R4 (5G3): sc-81607

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. PPP2R4 (protein phosphatase 2A activator, regulatory subunit 4), also known as PR53 or PTPA, is a 358 amino acid protein that is widely expressed and associates with the PP holoenzyme. Specifically, PPP2R4 functions to stimulate the ATP- and magnesium-dependent phosphotyrosyl phosphatase activity of the dimeric form of PP2A, thereby affecting the control of cell growth and division. Four isoforms of PPP2R4, designated α, β, δ and ε, are expressed due to alternative splicing events.

REFERENCES

1. Cayla, X., et al. 1994. Molecular cloning, expression, and characterization of PTPA, a protein that activates the tyrosyl phosphatase activity of protein phosphatase 2A. J. Biol. Chem. 269: 15668-15675.
2. Van Hoof, C., et al. 1995. Structure and chromosomal localization of the human gene of the phosphotyrosyl phosphatase activator (PTPA) of protein phosphatase 2A. Genomics 28: 261-272.
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.

CHROMOSOMAL LOCATION

Genetic locus: PPP2R4 (human) mapping to 9q34.11; Ppp2r4 (mouse) mapping to 2 B.

SOURCE

PPP2R4 (5G3) is a mouse monoclonal antibody raised against His-tagged recombinant PPP2R4 of mouse origin.

PRODUCT

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

PPP2R4 (5G3) is available conjugated to agarose (sc-81607 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-81607 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-81607 PE), fluorescein (sc-81607 FITC), Alexa Fluor® 488 (sc-81607 AF488), Alexa Fluor® 546 (sc-81607 AF546), Alexa Fluor® 594 (sc-81607 AF594) or Alexa Fluor® 647 (sc-81607 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-81607 AF680) or Alexa Fluor® 790 (sc-81607 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PPP2R4 (5G3) is recommended for detection of PPP2R4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for PPP2R4 siRNA (h): sc-92933, PPP2R4 siRNA (m): sc-77353, PPP2R4 siRNA (r): sc-108052, PPP2R4 shRNA Plasmid (h): sc-92933-SH, PPP2R4 shRNA Plasmid (m): sc-77353-SH, PPP2R4 shRNA Plasmid (r): sc-108052-SH, PPP2R4 shRNA (h) Lentiviral Particles: sc-92933-V, PPP2R4 shRNA (m) Lentiviral Particles: sc-77353-V and PPP2R4 shRNA (r) Lentiviral Particles: sc-108052-V.

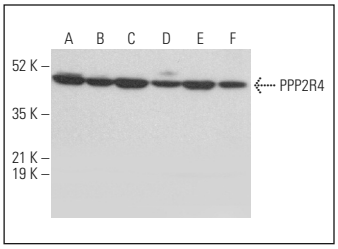
Molecular Weight of PPP2R4: 37 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, T-47D cell lysate: sc-2293 or HeLa whole cell lysate: sc-2200.

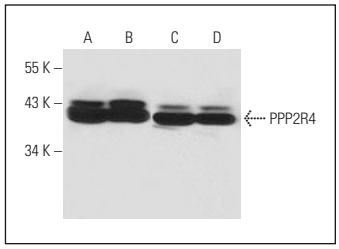
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



PPP2R4 (5G3): sc-81607. Western blot analysis of PPP2R4 expression in HeLa (**A**), MDA-MB-231 (**B**), BT-20 (**C**), F9 (**D**) and c4 (**E**) whole cell lysates and mouse postnatal heart tissue extract (**F**).



PPP2R4 (5G3): sc-81607. Western blot analysis of PPP2R4 expression in MCF7 (**A**), T-47D (**B**), K-562 (**C**) and HeLa (**D**) whole cell lysates.

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.

PROTOCOLS

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