SANTA CRUZ BIOTECHNOLOGY, INC.

PPP2R4 (C-10): sc-398242

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.

CHROMOSOMAL LOCATION

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

SOURCE

PPP2R4 (C-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 172-193 within an internal region of PPP2R4 of human origin.

PRODUCT

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

PPP2R4 (C-10) is available conjugated to agarose (sc-398242 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398242 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398242 PE), fluorescein (sc-398242 FITC), Alexa Fluor® 488 (sc-398242 AF488), Alexa Fluor® 546 (sc-398242 AF546), Alexa Fluor® 594 (sc-398242 AF594) or Alexa Fluor® 647 (sc-398242 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398242 AF680) or Alexa Fluor® 790 (sc-398242 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398242 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PPP2R4 (C-10) is recommended for detection of PPP2R4 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PPP2R4 (C-10) is also recommended for detection of PPP2R4 in additional species, including equine, canine, bovine, porcine and avian.

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.

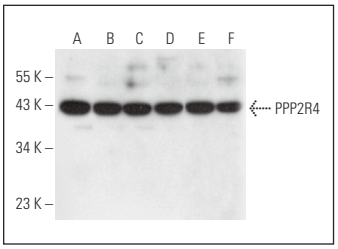
Molecular Weight of PPP2R4: 37 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

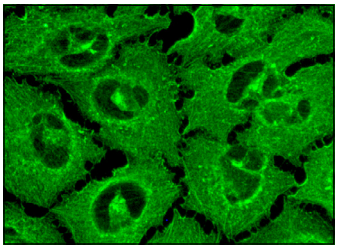
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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). 3) Immunofluorescence: use m-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PPP2R4 (C-10): sc-398242. Western blot analysis of PPP2R4 expression in MCF7 (**A**), HeLa (**B**), Hep G2 (**C**), BT-20 (**D**), T-47D (**E**) and K-562 (**F**) whole cell lysates.



PPP2R4 (C-10): sc-398242. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.