

# PPP2R4 (E-14): sc-163255

## 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  $\alpha$ ,  $\beta$ ,  $\delta$  and  $\epsilon$ , 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.
4. Janssens, V., et al. 2000. Identification and characterization of alternative splice products encoded by the human phosphotyrosyl phosphatase activator gene. *Eur. J. Biochem.* 267: 4406-4413.

## CHROMOSOMAL LOCATION

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

## SOURCE

PPP2R4 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PPP2R4 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-163255 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

PPP2R4 (E-14) 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), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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); non cross-reactive with PPP2R3C or PPP2R5E.

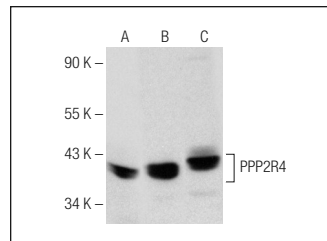
PPP2R4 (E-14) is also recommended for detection of PPP2R4 in additional species, including equine, canine, bovine, porcine and avian.

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, T-47D cell lysate: sc-2293 or Hep G2 cell lysate: sc-2227.

## DATA



PPP2R4 (E-14): sc-163255. Western blot analysis of PPP2R4 expression in Hep G2 (A), MCF7 (B) and BT-20 (C) whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **PPP2R4 (C-10): sc-398242** or **PPP2R4 (5G3): sc-81607**, our highly recommended monoclonal alternatives to PPP2R4 (E-14).