

# PPP1R4 (G-13): sc-98085

## 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.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 600756. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: PPP1R3B (human) mapping to 8p23.1; Ppp1r3b (mouse) mapping to 8 A4.

## SOURCE

PPP1R4 (G-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PPP1R4 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-98085 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PPP1R4 (G-13) is recommended for detection of PPP1R4 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).

PPP1R4 (G-13) is also recommended for detection of PPP1R4 in additional species, including equine and canine.

Suitable for use as control antibody for PPP1R4 siRNA (h): sc-77814, PPP1R4 siRNA (m): sc-152425, PPP1R4 shRNA Plasmid (h): sc-77814-SH, PPP1R4 shRNA Plasmid (m): sc-152425-SH, PPP1R4 shRNA (h) Lentiviral Particles: sc-77814-V and PPP1R4 shRNA (m) Lentiviral Particles: sc-152425-V.

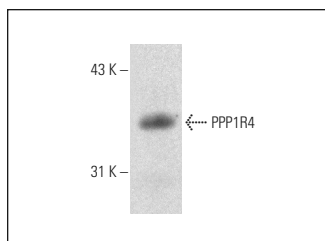
Molecular Weight of PPP1R4: 33 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



PPP1R4 (G-13): sc-98085. Western blot analysis of PPP1R4 expression in rat skeletal muscle tissue extract.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.