PR48 (N-19): sc-11798



The Power to Question

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions. The protein phosphatase (PP) holoenzyme is a trimeric complex composed of a regulatory subunit, a variable subunit, and a catalytic subunit. PR48 is a regulatory subunit of protein phosphatase 2A (PP2A). PP2A activity is required for the initiation of DNA replication in yeast, viral, and vertebrate systems. PR48 localizes to the nucleus and binds specifically to Cdc6, a highly conserved protein which is required for the formation of prereplicative complexes. PR48 is considered to be involved in the dephosphorylation of Cdc6 by PP2A, a process important to the control of DNA replication in mammalian cell.

REFERENCES

- Mumby, M.C. and Walter, G. 1993. Protein serine/threonine phosphatases: structure, regulation, and functions in cell growth. Physiol. Rev. 73: 673-699.
- Wera, S. and Hemming, B.A. 1995. Serine/threonine protein phosphatases. Biochem. J. 311: 17-29.
- Gavin, K.A., Hidaka, M. and Stillman, B. 1995. Conserved initiator proteins in eukaryotes. Science 270: 1667-1671.
- Lin, F.C. and Arndt, K.T. 1995. The role of Saccharomyces cerevisiae type 2A phosphatase in the actin cytoskeleton and in entry into mitosis. EMBO J. 14: 2745-2759.
- Coleman, T.R., Carpenter, P.B. and Dunphy, W.G. 1996. The Xenopus Cdc6 protein is essential for the initiation of a single round of DNA replication in cell-free extracts. Cell 87: 53-63.
- Yan, Z., DeGregori, J., Shohet, R., Leone, G., Stillman, B., Nevins, J.R. and Williams, R.S. 1998. Cdc6 is regulated by E2F and is essential for DNA replication in mammalian cells. Proc. Natl. Acad. Sci. USA 95: 3603-3608.
- Lin, X.H., Walter, J., Scheidtmann, K., Ohst, K., Newport, J. and Walter, G. 1998. Protein phosphatase 2A is required for the initiation of chromosomal DNA replication. Proc. Natl. Acad. Sci. USA 95: 14693-14698.
- Yan, Z., Fedorov, S.A., Mumby, M.C. and Williams, R.S. 2000. PR48, a novel regulatory subunit of protein phosphatase 2A, interacts with Cdc6 and modulates DNA replication in human cells. Mol. Cell. Biol. 20: 1021-1029.

CHROMOSOMAL LOCATION

Genetic locus: PPP2R3B (human) mapping to Xp22.33/ Yp11.32.

SOURCE

PR48 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PR48 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μg IgG in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11798 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PR48 (N-19) is recommended for detection of PR48 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

PR48 (N-19) is also recommended for detection of PR48 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for PR48 siRNA (h): sc-39204, PR48 shRNA Plasmid (h): sc-39204-SH and PR48 shRNA (h) Lentiviral Particles: sc-39204-V.

Molecular Weight of PR48: 48 kDa.

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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 **Europe** +00800 4573 8000 49 6221 4503 0 **www.scbt.com**