

PRC1 (K-18): sc-9342

BACKGROUND

Sequential activation and inactivation of Cdk/cyclin complexes regulates the cell cycle. PRC1 (for protein regulating cytokinesis 1) has been identified as a substrate for several Cdks, including Cdc2 and Cdk2. PRC1 binds to the mid-zone of mitotic spindles during anaphase and is localized to the cell midbody during cytokinesis. Depletion of PRC1 has been shown to prevent cellular cleavage, but it has no effect on nuclear division, demonstrating the importance of PRC1 in mitosis. The yeast homolog of PRC1, Ase1, is essential for spindle assembly, elongation and disassembly during mitosis. Ase1 has been shown to undergo degradation mediated by the APC (anaphase-promoting complex) upon entry into G₁ phase.

REFERENCES

- Sherr, C.J. 1994. G₁ phase progression: cycling on cue. *Cell* 79: 551-555.
- Heichman, K.A. and Roberts, J.M. 1994. Rules to replicate by. *Cell* 79: 557-562.
- King, R.W., et al. 1994. Mitosis in transition. *Cell* 79: 563-571.
- Pellman, D., et al. 1995. Two microtubule-associated proteins required for anaphase spindle movement in *Saccharomyces cerevisiae*. *J. Cell Biol.* 130: 1373-1385.

CHROMOSOMAL LOCATION

Genetic locus: PRC1 (human) mapping to 15q26.1.

SOURCE

PRC1 (K-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PRC1 of human origin.

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-9342 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PRC1 (K-18) is recommended for detection of PRC1 of human origin by Western Blotting (starting dilution 1:200, 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).

PRC1 (K-18) is also recommended for detection of PRC1 in additional species, including equine and canine.

Suitable for use as control antibody for PRC1 siRNA (h): sc-44039, PRC1 shRNA Plasmid (h): sc-44039-SH and PRC1 shRNA (h) Lentiviral Particles: sc-44039-V.

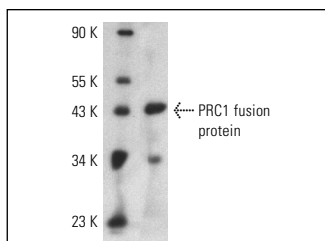
Molecular Weight of PRC1: 72 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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



PRC1 (K-18): sc-9342. Western blot analysis of human recombinant PRC1 fusion protein.

SELECT PRODUCT CITATIONS

- Xiao, L. and Tsutsui, T. 2012. Three-dimensional epithelial and mesenchymal cell co-cultures form early tooth epithelium invagination-like structures: expression patterns of relevant molecules. *J. Cell. Biochem.* 113: 1875-1885.
- Hu, C.K., et al. 2012. Plk1 negatively regulates PRC1 to prevent premature midzone formation before cytokinesis. *Mol. Biol. Cell* 23: 2702-2711.

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 or our catalog for detailed protocols and support products.



Try **PRC1 (C-1): sc-376983** or **PRC1 (6G2): sc-56345**, our highly recommended monoclonal alternatives to PRC1 (K-18).