

# PRC1 (H-70): sc-8356

## 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 was shown to prevent cellular cleavage, but it had 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 G<sub>1</sub> phase.

## REFERENCES

- Sherr, C.J. 1994. G<sub>1</sub> phase progression: cycling on cue. *Cell* 79: 551-555.
- Heichman, K.A., et al. 1994. Rules to replicate by. *Cell* 79: 557-562.
- King, R.W., et al. 1994. Mitosis in transition. *Cell* 79: 563-571.

## CHROMOSOMAL LOCATION

Genetic locus: PRC1 (human) mapping to 15q26.1; Prc1 (mouse) mapping to 7 D3.

## SOURCE

PRC1 (H-70) is a rabbit polyclonal antibody raised against amino acids 451-620 mapping at 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.

## APPLICATIONS

PRC1 (H-70) is recommended for detection of PRC1 of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (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 (H-70) 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 siRNA (m): sc-44346, PRC1 shRNA Plasmid (h): sc-44039-SH, PRC1 shRNA Plasmid (m): sc-44346-SH, PRC1 shRNA (h) Lentiviral Particles: sc-44039-V and PRC1 shRNA (m) Lentiviral Particles: sc-44346-V.

Molecular Weight of PRC1: 72 kDa.

Positive Controls: PRC1 (m): 293T Lysate: sc-127378, HeLa whole cell lysate: sc-2200 or mouse embryo extract: sc-364239.

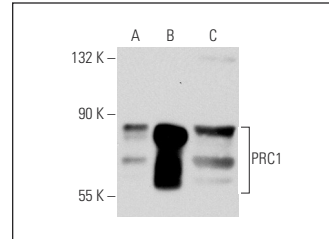
## RESEARCH USE

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

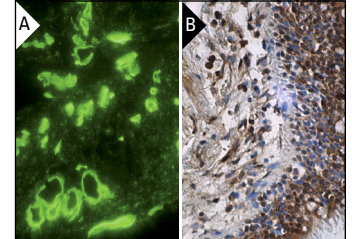
## STORAGE

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

## DATA



PRC1 (H-70): sc-8356. Western blot analysis of PRC1 expression in non-transfected 293T: sc-117752 (A), mouse PRC1 transfected 293T: sc-127378 (B) and HeLa (C) whole cell lysates.



PRC1 (H-70): sc-8356. Immunofluorescence staining of normal mouse intestine frozen section showing nuclear staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing nuclear and cytoplasmic staining of respiratory epithelial cells and interstitial cells (B).

## SELECT PRODUCT CITATIONS

- Ban, R., et al. 2004. Human mitotic spindle-associated protein PRC1 inhibits MgcRacGAP activity toward Cdc42 during the metaphase. *J. Biol. Chem.* 279: 16394-16402.
- Ozlu, N., et al. 2010. Binding partner switching on microtubules and aurora-B in the mitosis to cytokinesis transition. *Mol. Cell. Proteomics* 9: 336-350.
- Leber, B., et al. 2010. Proteins required for centrosome clustering in cancer cells. *Sci. Transl. Med.* 2: 33-38.
- Bochtler, T., et al. 2012. Centrosomal targeting of tyrosine kinase activity does not enhance oncogenicity in chronic myeloproliferative disorders. *Leukemia* 26: 728-735.
- Hu, C.K., et al. 2012. Plk1 negatively regulates PRC1 to prevent premature midzone formation before cytokinesis. *Mol. Biol. Cell* 23: 2702-2711.
- Kreis, N.N., et al. 2014. p21<sup>Waf1/Cip1</sup> deficiency causes multiple mitotic defects in tumor cells. *Oncogene* 33: 5716-5728.
- Bailey, J.K., et al. 2015. WD repeat-containing protein 5 (WDR5) localizes to the midbody and regulates abscission. *J. Biol. Chem.* 290: 8987-9001.

## PROTOCOLS

See our web site at [www.scbt.com](http://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 (H-70).