10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PRC1 Antibody
Catalog # ASC11476

Specification

PRC1 Antibody - Product Information

Application	**WB, IHC, IF**
Primary Accession	O43663
Other Accession	NP_003972, 4506039
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Application Notes	**PRC1 antibody can be used for detection of Prc1 by Western blot at 0.5 - 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 2.5 µg/mL.**

PRC1 Antibody - Additional Information

Gene ID **9055**

Target/Specificity
PRC1; At least three alternatively spliced transcript variants encoding distinct isoforms have been observed.

Reconstitution & Storage
PRC1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
PRC1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PRC1 Antibody - Protein Information

Name PRC1 (HGNC:9341)

Function
Key regulator of cytokinesis that cross-links antiparrallel microtubules at an average distance of 35 nM. Essential for controlling the spatiotemporal formation of the midzone and successful cytokinesis. Required for KIF14 localization to the central spindle and midbody. Required to recruit PLK1 to the spindle. Stimulates PLK1 phosphorylation of RACGAP1 to allow recruitment of ECT2 to the central spindle. Acts as an oncogene for promoting bladder cancer cells proliferation, apoptosis inhibition and carcinogenic progression (PubMed:17409436).

Cellular Location

Nucleus. Cytoplasm. Cytoplasm, cytoskeleton, spindle pole. Midbody. Chromosome. Note=Colocalized with KIF20B in the nucleus of bladder carcinoma cells at the interphase. Colocalized with KIF20B in bladder carcinoma cells at prophase, metaphase, early anaphase, at the midzone in late anaphase and at the contractile ring in telophase (PubMed:17409436). Predominantly localized to the nucleus of interphase cells. During mitosis becomes associated with the mitotic spindle poles and localizes with the cell midbody during cytokinesis Co-localizes with PRC1 in early mitosis and at the spindle midzone from anaphase B to telophase (PubMed:15297875, PubMed:15625105)

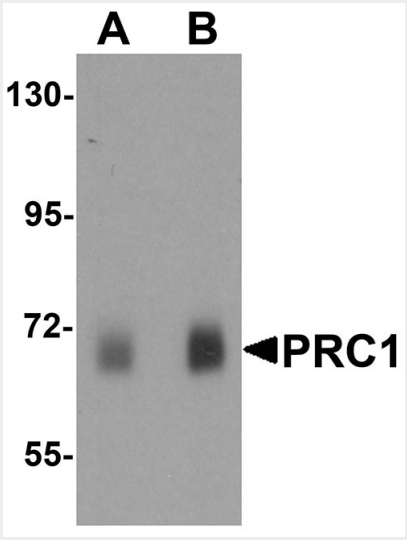
Tissue Location
Overexpressed in bladder cancer cells (PubMed:17409436).

PRC1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

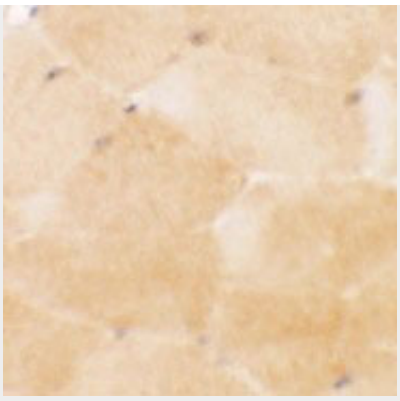
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PRC1 Antibody - Images

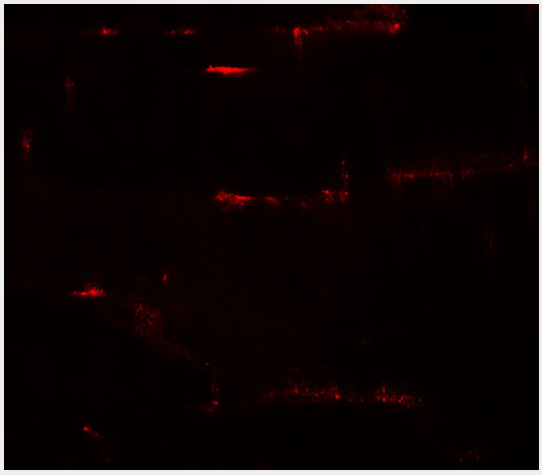


Western blot analysis of PRC1 in human skeletal muscle tissue lysate with Prc1 antibody at (A) 0.5 µg/ml and (B) 1 µg/mL.

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999



Immunohistochemistry of PRC1 in mouse skeletal muscle tissue with PRC1 antibody at 2.5 µg/mL.



Immunofluorescence of PRC1 in mouse skeletal muscle tissue with PRC1 antibody at 20 µg/mL.

PRC1 Antibody - Background

PRC1 Antibody: PRC1 (Protein Regulator of Cytokinesis 1) is a key regulator of cytokinesis and has been identified as a substrate for several cyclin-dependent kinases (CDKs). High levels of PRC1 expression occurs during S and G2/M and drops dramatically after mitosis exit and G1 entry. It is located in the nucleus during interphase and binds to the midzone 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.

PRC1 Antibody - References

Jiang W, Jimenez G, Wells NJ, et al. PRC1: a human mitotic spindle-associated Cdk substrate protein required for cytokinesis. Mol. Cell 1998; 2:877-85.
Pellman D, Bagget M, Tu H, et al. Two microtubule-associated proteins required for anaphase spindle movement in Saccharomyces Cerevisiae. J. Cell Biol. 1995; 130:1373-85.
Kurasawa Y, Earnshaw WC, Mochizuki Y, et al. Essential roles of KIF4 and its binding partner PRC1 in organized central spindle midzone formation. EMBO J. 2004; 23:3237-48.
Mollinari C, Kleman JP, Jiang W, et al. PRC1 is a microtubule binding and bundling protein essential to maintain the mitotic spindle midzone. J. Cell Biol. 2002; 157:1175-86.