abcam

ab238427

Anti-PRC1 antibody [EP1513Y] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EP1513Y
Purification technique	Affinity purification Protein A
Concentration	0.969 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information Protein regulator of cytokinesis 1

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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab238427 is the carrier-free version of ab51248.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	PRC1 also known as Protein Regulator of Cytokinesis 1 affiliates with cellular division mechanics. This protein weighs approximately 72 kDa. PRC1 localizes in the nucleus during the interphase and redistributes to the spindle midzone during mitosis. It plays a role in the stabilization of microtubules facilitating proper cytokinesis. Expression of PRC1 occurs in several human tissues notably in dividing cells.
Biological function summary	PRC1 functions in accurately regulating actin and microtubule interaction during cell division. As a part of the centralspindlin complex it ensures correct spindle midzone formation and serves as a marker for the cleavage furrow. Cellular events coordinated by PRC1 involve chromosomal segregation and rapidly proliferating cells express it to maintain integrity during mitotic processes.
Pathways	PRC1 contributes significantly to the mitotic spindle checkpoint. It participates in the Aurora B kinase pathway interacting with proteins like KIF4A and PLK1. This protein ensures the transition from metaphase to anaphase is precise preventing aneuploidy. As a pathway node PRC1 manages signal transduction facilitating cell cycle regulation and fidelity.
Associated diseases and disorders	Dysregulation of PRC1 expression associates with cancer notably prostate and breast cancer. Tumor cells often display altered PRC1 activity linked to abnormal cell proliferation. The protein interacts with the oncogenic proteins such as p53 indicating a role in tumorigenesis and progression. Exploring therapeutic strategies targeting PRC1 could provide insights into cancer treatment.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

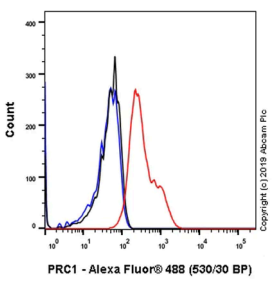
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:

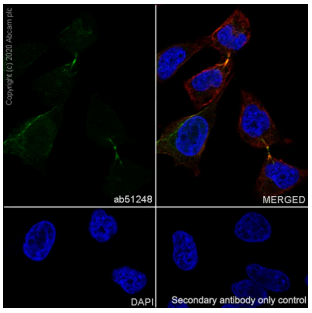
4 product images



Flow Cytometry (Intracellular) - Anti-PRC1 antibody [EP1513Y] - BSA and Azide free (ab238427)

PRC1 Flow Cytometry (Intracellular) staining using rabbit Anti-PRC1 antibody

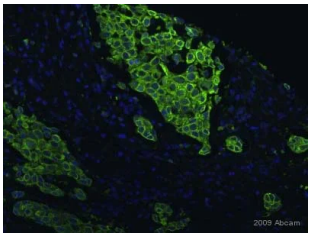
This data was developed using 238427, the same antibody clone in a different buffer formulation. Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling PRC1 with Purified 238427 at 1/30 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunocytochemistry/ Immunofluorescence - Anti-PRC1 antibody [EP1513Y] - BSA and Azide free (ab238427)

PRC1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PRC1 antibody

This data was developed using 238427, the same antibody clone in a different buffer formulation. Immunocytochemistry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling PRC1 with Purified 238427 at 1:50 dilution (5.06 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488,ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.

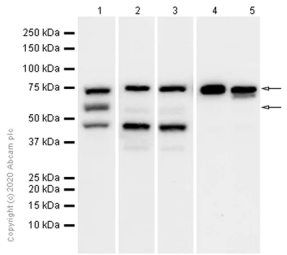


This image is courtesy of an anonymous customer review.

Immunocytochemistry/ Immunofluorescence - Anti-PRC1 antibody [EP1513Y] - BSA and Azide free (ab238427)

PRC1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PRC1 antibody

ab51248 staining PRC1 in human breast cancer cells by ICC/IF. The cells were paraformaldehyde fixed and blocked in 1% serum for 1 hour at 37°C without permeation step. The primary antibody was diluted 1/100 (PBS) and incubated with sample for 1 hour at 20°C. An Alexa Fluor® 488 conjugated donkey polyclonal to rabbit IgG, diluted 1/200 was used as secondary. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab51248).



Western blot - Anti-PRC1 antibody [EP1513Y] - BSA and Azide free (ab238427)

ab51248 recognise two isoforms of PRC1. But we are unsure how to define the extra bands at ~50kDa.
All lanes:
Western blot - Anti-PRC1 antibody [EP1513Y] (ab51248) at 1/1000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
C6 (Rat glial tumor glial cell) whole cell lysate at 20 µg

Lane 3:
C2C12 (Mouse myoblasts myoblast) whole cell lysate at 20 µg

Lane 4:
Mouse kidney lysate at 20 µg

Lane 5:
Rat kidney lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 72 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.