abcam

Product datasheet

Anti-PLK1 (phospho T210) antibody [EPNCIR167] ab155095

Recombinant RabMAb

14 References 12 Images

Overview

Product name	Anti-PLK1 (phospho T210) antibody [EPNCIR167]
Description	Rabbit monoclonal [EPNCIR167] to PLK1 (phospho T210)
Host species	Rabbit
Tested applications	**Suitable for:** WB, IHC-P, Dot blot
Species reactivity	**Reacts with:** Mouse, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: HeLa, NIH/3T3, Mouse testis, Mouse colon, Hela treated with thymidine and nocodazole, HeLa treated with nocodazole, HeLa treated with calyculin A cell lysates. Dot: PLK1 (pT210) phospho peptide. IHC-P: Human colon, gastroic carcinoma, thyroid gland carcinoma, cervical carcinoma and placenta tissues.
General notes	This antibody was developed as part of a collaboration between the National Cancer Institute's Center for Cancer Research and the lab of Kyung Lee. **View antibodies from NCI Center for Cancer Research Collaboration**. 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 production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**. Rat: We have preliminary internal testing data to indicate this antibody may not react with this species. Please contact us for more information.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20ºC.

Storage buffer	Preservative: 0.01% Sodium azide Constituents: 40% Glycerol (glycerin, glycerine), 0.05% BSA, 59% PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPNCIR167
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab155095 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/1000. Predicted molecular weight: 68 kDa. **For unpurified use at 1/1000 - 1/10000.**
IHC-P		1/500. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**. **For unpurified use at 1/100 - 1/250.**
Dot blot		Use at an assay dependent concentration.

Target

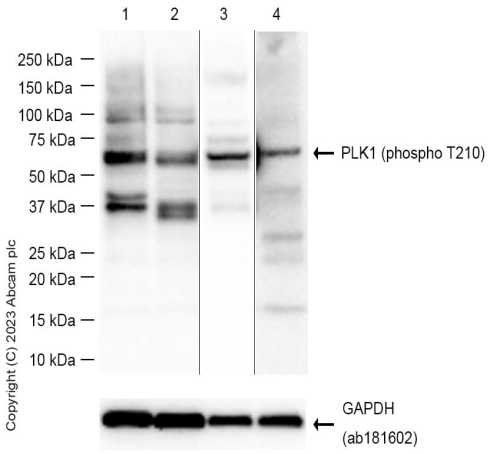
Function	Serine/threonine-protein kinase that performs several important functions throughout M phase of the cell cycle, including the regulation of centrosome maturation and spindle assembly, the removal of cohesins from chromosome arms, the inactivation of APC/C inhibitors, and the regulation of mitotic exit and cytokinesis. Required for recovery after DNA damage checkpoint and entry into mitosis. Required for kinetochore localization of BUB1B. Phosphorylates SGOL1. Required for spindle pole localization of isoform 3 of SGOL1 and plays a role in regulating its centriole cohesion function. Phosphorylates BORA, and thereby promotes the degradation of BORA. Contributes to the regulation of AURKA function. Regulates TP53 stability through phosphorylation of TOPORS.
Tissue specificity	Placenta and colon.
Sequence similarities	Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. CDC5/Polo subfamily. Contains 2 POLO box domains. Contains 1 protein kinase domain.
Developmental stage	Accumulates to a maximum during the G2 and M phases, declines to a nearly undetectable level following mitosis and throughout G1 phase, and then begins to accumulate again during S phase.
Post-translational modifications	Catalytic activity is enhanced by phosphorylation of Thr-210. Phosphorylation at Thr-210 is first detected on centrosomes in the G2 phase of the cell cycle, peaks in prometaphase and gradually disappears from centrosomes during anaphase. Autophosphorylation and phosphorylation of Ser-137 may not be significant for the activation of PLK1 during mitosis, but may enhance catalytic activity during recovery after DNA damage

checkpoint.
Ubiquitinated by the anaphase promoting complex/cyclosome (APC/C) in anaphase and following DNA damage, leading to its degradation by the proteasome. Ubiquitination is mediated via its interaction with FZR1/CDH1. Ubiquitination and subsequent degradation prevents entry into mitosis and is essential to maintain an efficient G2 DNA damage checkpoint.

Cellular localization

Nucleus. Chromosome > centromere > kinetochore. Cytoplasm > cytoskeleton > centrosome. During early stages of mitosis, the phosphorylated form is detected on centrosomes and kinetochores. Localizes to the outer kinetochore. Presence of SGOL1 and interaction with the phosphorylated form of BUB1 is required for the kinetochore localization.

Images



Western blot - Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095)

All lanes : Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095) at 1/1000 dilution

Lane 1 : HeLa (Human cervix adenocarcinoma epithelial cell) (RIPA) whole cell lysate
Lane 2 : NIH/3T3 (Mouse embryonic fibroblast) (RIPA) whole cell lysate
Lane 3 : Mouse testis (RIPA) lysate
Lane 4 : Mouse colon (RIPA) lysate

Lysates/proteins at 20 µg per lane.

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

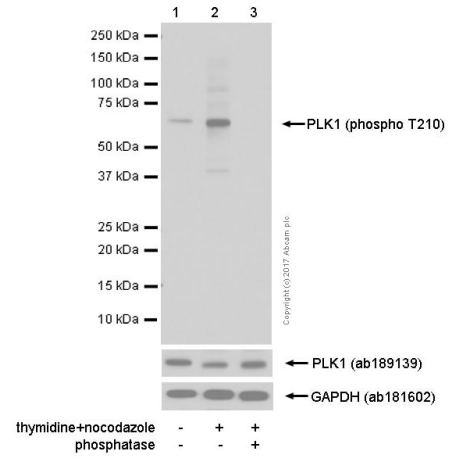
Predicted band size: 68 kDa
Observed band size: 68 kDa

Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM/TBST.

Exposure Time: Lane 1-2: 40 seconds, Lane 3: 3 seconds and Lane 4: 180 seconds.

ab181602 was used as a loading control.



Western blot - Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095)

All lanes : Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095) at 1/1000 dilution

Lane 1 : Hela (Human cervix adenocarcinoma epithelial cell) whole cell lysates with NFDM/TBST
Lane 2 : Hela (Human cervix adenocarcinoma epithelial cell) treated with thymidine (2mM, 16 h) then with nocodazole (10nM, 24h). Whole cell lysates with NFDM/TBST
Lane 3 : Hela (Human cervix adenocarcinoma epithelial cell) treated with thymidine (2mM, 16 h) then with nocodazole (10nM, 24h). Whole cell lysates.Then the membrane was incubated with phosphatase. with NFDM/TBST

Lysates/proteins at 15 µg per lane.

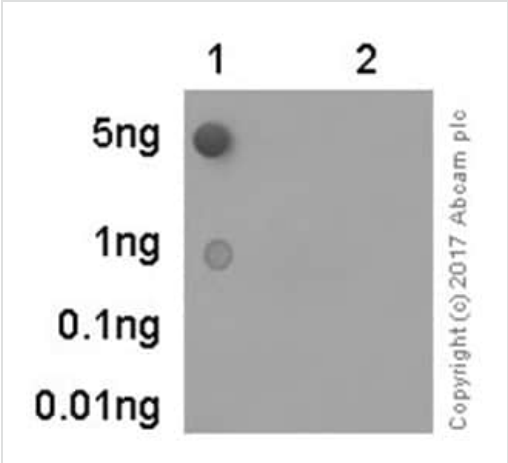
Blocking peptides at 5 % per lane.

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

Predicted band size: 68 kDa
Observed band size: 68 kDa

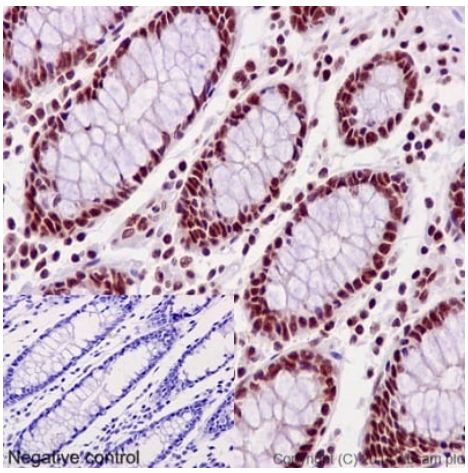
Exposure time: 10 seconds

antibody used for ab155095 is purified batch



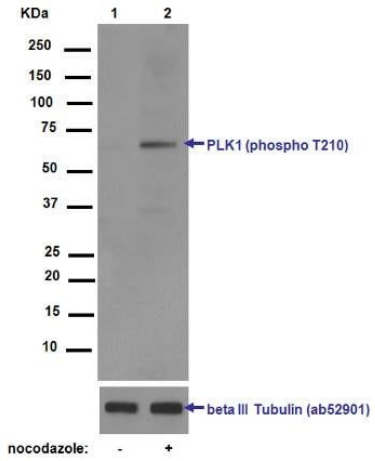
Dot Blot - Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095)

Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095) Dot Blot. Primary ab dilution 1:1000, Secondary ab description and code (ab id)Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**), Secondary ab dilution 1:100,000. Blocking buffer and concentration 5% NFDM/TBST, Diluting buffer and concentration 5% NFDM /TBST. Lane 1:PLK1 (pT210) phospho peptide, Lane 2: PLK1 non-phospho peptide, Exposure time 10 seconds. Note: antibody used for ab155095 is purified batch.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095)

ab155095 staining PLK1 (phospho T210) in Human colon tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed and paraffin-embedded, antigen retrieval was by heat mediation in Tris/EDTA buffer pH9. Samples were incubated with primary antibody (1/500). An undiluted HRP-conjugated anti-rabbit IgG was used as the secondary antibody. Tissue counterstained with Hematoxylin. PBS was used in the negative control rather than the Primary antibody.



Western blot - Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095)

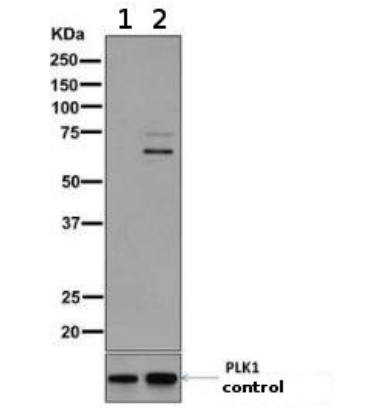
All lanes : Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095) at 1/1000 dilution

Lane 1 : HeLa cell lysate
Lane 2 : HeLa cell lysate post treatment with Nocodazole

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), HRP-conjugated at 1/1000 dilution

Predicted band size: 68 kDa



Western blot - Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095)

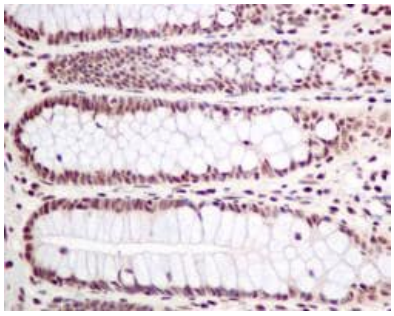
All lanes : Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095) at 1/1000 dilution (unpurified)

Lane 1 : HeLa cell lysate, untreated
Lane 2 : HeLa cell lysate, treated with calyculin A

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat anti-rabbit HRP at 1/2000 dilution

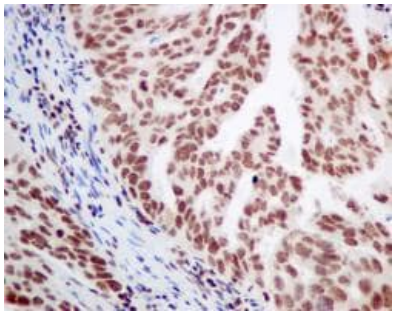
Predicted band size: 68 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095)

Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling PLK1 with ab155095, unpurified, at 1/100 dilution.

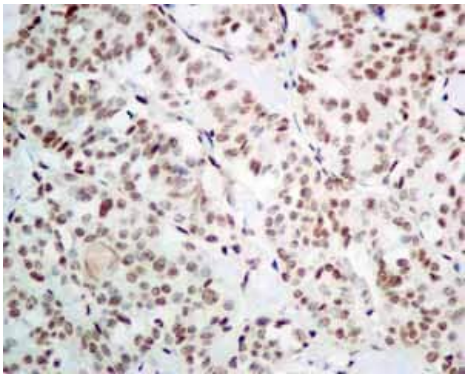
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095)

Immunohistochemical analysis of paraffin-embedded Human gastroic carcinoma tissue labeling PLK1 with ab155095, unpurified, at 1/100 dilution.

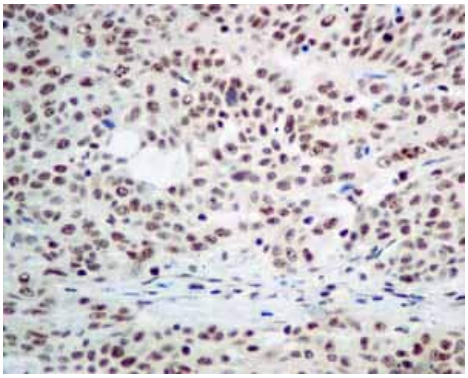
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095)

Immunohistochemical analysis of paraffin embedded Human thyroid gland carcinoma tissue using ab155095, unpurified, showing +ve staining.

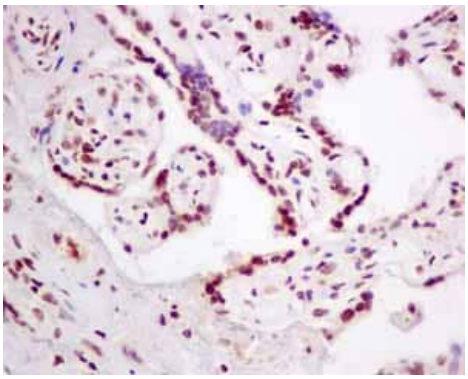
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095)

Immunohistochemical analysis of paraffin embedded Human cervical carcinoma tissue using ab155095, unpurified, showing +ve staining.

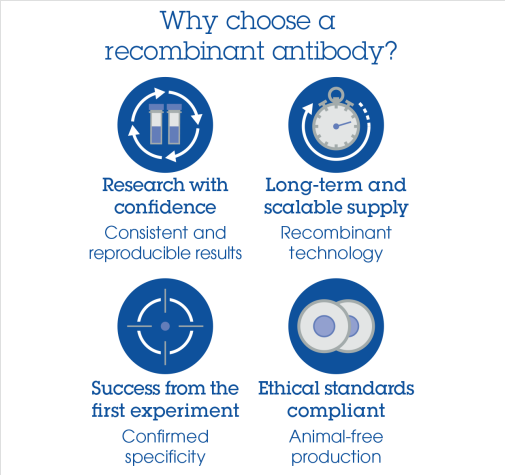
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095)

Immunohistochemical analysis of paraffin embedded Human placenta tissue using ab155095, unpurified, showing +ve staining.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Anti-PLK1 (phospho T210) antibody [EPNCIR167] (ab155095)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors