

Product datasheet

Anti-PLK1 antibody [36-298] - BSA and Azide free ab178666

6 References 1 Image

Overview

Product name	Anti-PLK1 antibody [36-298] - BSA and Azide free
Description	Mouse monoclonal [36-298] to PLK1 - BSA and Azide free
Host species	Mouse
Tested applications	Suitable for: WB, IP, Flow Cyt, Indirect ELISA, ICC/IF
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Recombinant full length protein corresponding to Human PLK1.
Epitope	aa330-370.
Positive control	WB: 293, HeLaS3 or U2OS cell lysate ICC: HeLaS3, NIH 3T3 or U2OS cells
General notes	This antibody clone is manufactured by Abcam. If you require this antibody in a particular buffer formulation or a particular conjugate for your experiments, please contact orders@abcam.com or you can find further information here .

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Constituent: PBS
Carrier free	Yes
Purity	IgG fraction
Clonality	Monoclonal
Clone number	36-298
Isotype	IgG1

Applications

Our [Abpromise guarantee](#) covers the use of **ab178666** in the following tested applications.

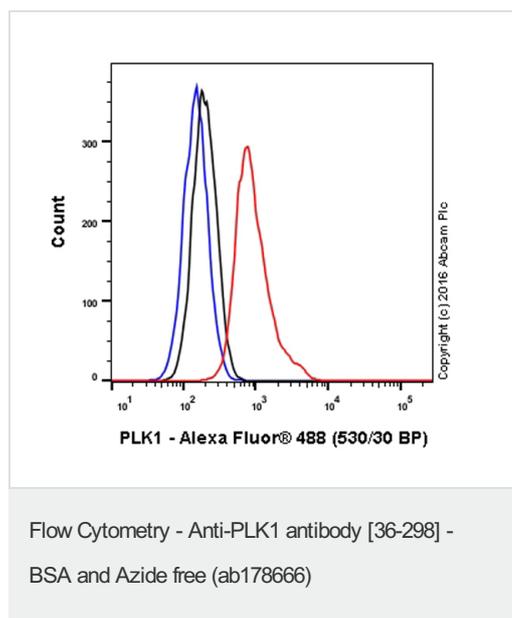
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use a concentration of 1 µg/ml. Detects a band of approximately 66 kDa (predicted molecular weight: 68 kDa).
IP		Use at an assay dependent concentration.
Flow Cyt		Use 1µg for 10 ⁶ cells. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
Indirect ELISA		Use at an assay dependent concentration.
ICC/IF		1/200. PubMed: 19033445

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



This flow cytometry data was generated using the same antibody clone in a different buffer formulation ([ab17057](#)).

Overlay histogram showing U2OS cells stained with [ab17057](#) (red line). The cells were fixed with 80% methanol (10 min) and then permeabilized with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody ([ab17057](#), 1 µg/1x10⁶ cells) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-mouse IgG (H+L) ([ab150117](#)) at 1/2000 dilution for 30 min at 22°C.

Isotype control antibody (black line) was mouse IgG1 [15-6E10A7] ([ab170190](#), 1 µg/1x10⁶ cells) used under the same conditions.

Acquisition of >5,000 events were collected using a 50 mW Blue laser (488nm) and 530/30 bandpass filter.

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