

Product datasheet

Anti-PLK1 antibody [AZ34] ab12211

[2 Images](#)

Overview

Product name	Anti-PLK1 antibody [AZ34]
Description	Mouse monoclonal [AZ34] to PLK1
Host species	Mouse
Specificity	The cross-reactivity of this antibody regards the various isoforms of PLK is not known.
Tested applications	Suitable for: WB Unsuitable for: ICC/IF
Species reactivity	Reacts with: Human, Xenopus laevis
Immunogen	Recombinant full length protein (Xenopus laevis).
Positive control	Hela cells
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

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	Preservative: 0.02% Sodium azide Constituent: 99.98% PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	AZ34
Myeloma	Sp2/0-Ag14
Isotype	IgG2a

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab12211 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 57 kDa (predicted molecular weight: 68 kDa).

Application notes Is unsuitable for ICC/IF.

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.

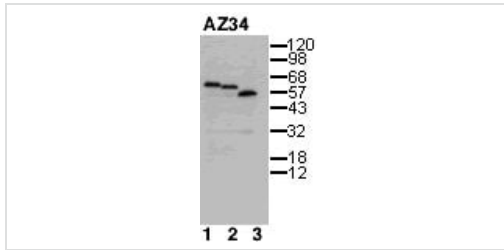
Post-translational modifications Catalytic activity is enhanced by phosphorylation of Thr-210. Phosphorylation at Thr-210 is first detected on centrosomes in the G2 phase of the cell cycle, peaks in prometaphase and gradually disappears from centrosomes during anaphase.

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 antibody [AZ34] (ab12211)

This image is courtesy of Julian Gannon, CRUK

Western blot using ab12211.

Lane 1: Mitotic CSF Xenopus egg extract

Lane 2: Interphase Xenopus egg extract

Lane 3: HeLa cell extract

Note that the phosphorylated form of Plx from the Xenopus mitotic extract migrates slower than the unphosphorylated form present in the interphase extract.

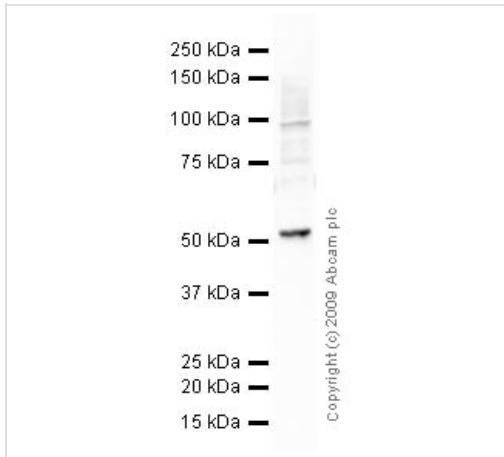
Western blot using ab12211.

Lane 1: Mitotic CSF Xenopus egg extract

Lane 2: Interphase Xenopus egg extract

Lane 3: HeLa cell extract

Note that the phosphorylated form of Plx from the Xenopus mitotic extract migrates slower than the unphosphorylated form present in the interphase extract.



Western blot - Anti-PLK1 antibody [AZ34] (ab12211)

Anti-PLK1 antibody [AZ34] (ab12211) at 1 µg/ml + HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate at 10 µg

Secondary

Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Predicted band size: 68 kDa

Observed band size: 57 kDa

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