abcam

Product datasheet

Anti-PLK1 (phospho T210) antibody [2A3] ab39068

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Overview

Product name	Anti-PLK1 (phospho T210) antibody [2A3]
Description	Mouse monoclonal [2A3] to PLK1 (phospho T210)
Host species	Mouse
Tested applications	**Suitable for:** WB
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide corresponding to Human PLK1 (phospho T210).
Positive control	Extracts from overnight nocodazole treated Hela cells.
General notes	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. 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

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Preservative: 0.09% Sodium azide Constituent: PBS
Purity	Protein G purified
Purification notes	ab39068 is an affinity purified IgG.
Clonality	Monoclonal
Clone number	2A3
Isotype	IgG1
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab39068 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	★★★★☆ **(4)**	Use a concentration of 1 µg/ml. Predicted molecular weight: 68 kDa.

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.

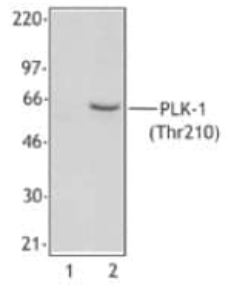
Sequence similarities Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. CDC5/Polo subfamily.
Contains 2 POLO box domains.
Contains 1 protein kinase domain.

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 [2A3] (ab39068)

All lanes : Anti-PLK1 (phospho T210) antibody [2A3] (ab39068) at 1 µg/ml

Lane 1 : Extracts from untreated Hela cells

Lane 2 : Extracts from overnight nocodazole treated Hela cells

Predicted band size: 68 kDa

Observed band size: 66 kDa

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