abcam

Product datasheet

Anti-PLK4 antibody ab2642

10 References 4 Images

Overview

Product name	Anti-PLK4 antibody
Description	Goat polyclonal to PLK4
Host species	Goat
Tested applications	**Suitable for:** ICC/IF, Flow Cyt, WB, Flow Cyt (Intra)
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Cow, Dog
Immunogen	Synthetic peptide corresponding to Human PLK4 aa 1-100 (N terminal). (NP_001177728.1) Database link: O00444 Run BLAST with Run BLAST with
Positive control	Human colon lysate
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. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7.30 Preservative: 0.02% Sodium azide Constituents: Tris buffered saline, 0.5% BSA
Purity	Immunogen affinity purified
Purification notes	Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our Abpromise guarantee covers the use of ab2642 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
ICC/IF		Use a concentration of 10 µg/ml.
Flow Cyt		Use a concentration of 10 µg/ml.
WB		Use a concentration of 1 - 3 µg/ml. Detects a band of approximately 110 kDa (predicted molecular weight: 109 kDa). 1 hour primary incubation is recommended for this product.
Flow Cyt (Intra)		Use a concentration of 10 µg/ml.

Target

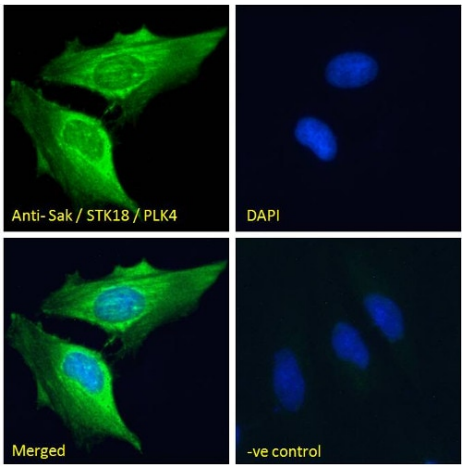
Function Serine/threonine-protein kinase that plays a central role in centriole duplication. Able to trigger procentriole formation on the surface of the parental centriole cylinder, leading to the recruitment of centriole biogenesis proteins such as SASS6, CENPJ/CPAP, CP110, CEP135 and gamma-tubulin. When overexpressed, it is able to induce centrosome amplification through the simultaneous generation of multiple procentrioles adjoining each parental centriole during S phase. Its central role in centriole replication suggests a posible role in tumorigenesis, centrosome aberrations being frequently observed in tumors. Also involved in trophoblast differentiation by phosphorylating HAND1, leading to disrupt the interaction between HAND1 and MDFIC and activate HAND1. Phosphorylates CDC25C and CHEK2/CHK2.

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

Post-translational modifications Ubiquitinated; leading to its degradation by the proteasome.
Tyrosine-phosphorylated by TEC.

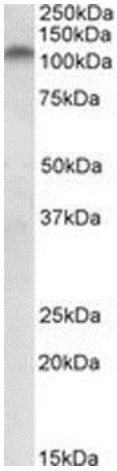
Cellular localization Cytoplasm > cytoskeleton > centrosome > centriole. Nucleus > nucleolus. Cleavage furrow. Associates with centrioles throughout the cell cycle. According to PubMed:16244668, it is not present at cleavage furrows.

Images



Immunocytochemistry/ Immunofluorescence - Anti-PLK4 antibody (ab2642)

Immunofluorescence analysis of paraformaldehyde fixed HeLa cells staining PLK4. Cells were permeabilized with 0.15% Triton. Samples were incubated with primary anitbody for 1 hour at 10µg/ml. An Alexa Fluor 488 was used as the secondary antibody. DAPI was used as a nuclear counterstain. Unimmunized goat IgG (10µg/ml) was used as the negative control.



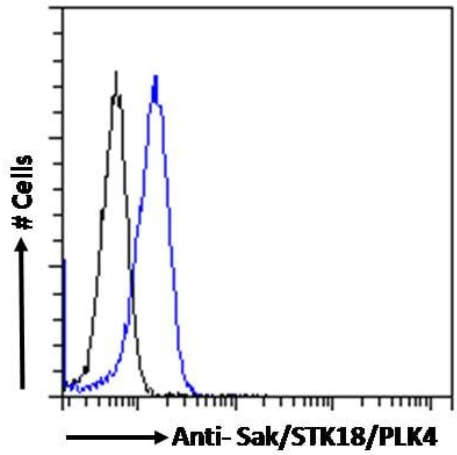
Western blot - Anti-PLK4 antibody (ab2642)

Anti-PLK4 antibody (ab2642) at 2 µg/ml + human colon lysate in RIPA buffer at 35 µg

Developed using the ECL technique.

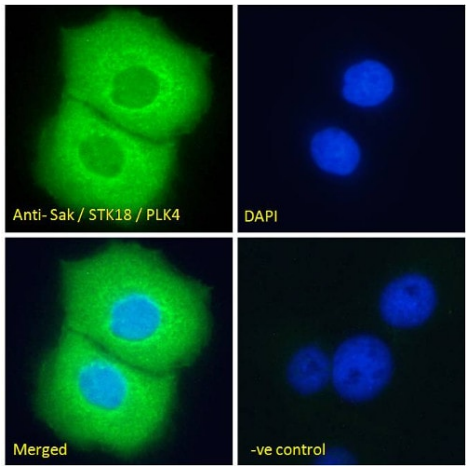
Predicted band size: 109 kDa
Observed band size: 110 kDa

Exposure time: 1 hour



Flow Cytometry (Intracellular) - Anti-PLK4 antibody (ab2642)

Flow Cytometry analysis of HeLa cells labeling PLK4 with ab2642 at 10ug/mL followed by Alexa Fluor 488 secondary antibody (1ug/mL) (blue line). Cells were permeabilized with 0.5% Triton. IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor 488 secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-PLK4 antibody (ab2642)

Immunofluorescence analysis of paraformaldehyde fixed A431 cells staining PLK4. Cells were permeabilized with 0.15% Triton. Samples were incubated with primary anitbody for 1 hour at 10µg/ml. An Alexa Fluor 488 was used as the secondary antibody. DAPI was used as a nuclear counterstain. Unimmunized goat IgG (10µg/ml) was used as the negative control.

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