abcam

Product datasheet

Anti-CDK1 antibody [A17] ab18

★★★★★ 2 Abreviews 130 References 4 Images

Overview

Product name	Anti-CDK1 antibody [A17]
Description	Mouse monoclonal [A17] to CDK1
Host species	Mouse
Tested applications	**Suitable for:** Flow Cyt (Intra), WB, IHC-P
Species reactivity	**Reacts with:** Mouse, Human **Predicted to work with:** Rat, Chicken, Xenopus laevis
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Epitope	The epitope is thought to be residues 220-227 of mouse cdc2, LGTPNNEV.
Positive control	WB: HeLa, Jurkat, MCF7, A431, RAW 264.7 and NIH/3T3 whole cell lysate. IHC-P: Human skin, Human lung cancer tissue. Flow Cyt: MCF7 cells
General notes	This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact **orders@abcam.com**. 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). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: PBS, 6.97% L-Arginine
Purity	Protein G purified
Clonality	Monoclonal

Clone number	A17
Myeloma	Sp2
Isotype	IgG2a
Light chain type	unknown

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab18 in the following tested applications.

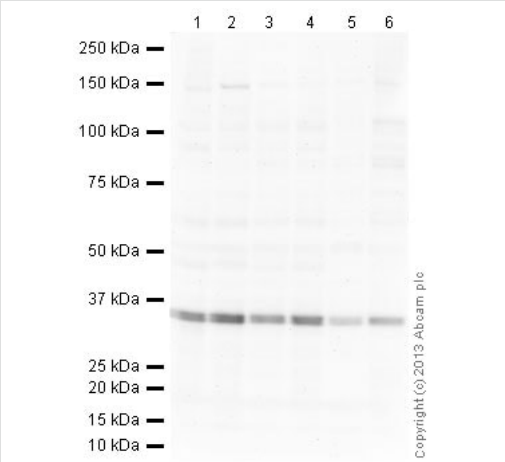
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt (Intra)		Use 0.5µg for 10^6 cells. **ab170191** - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.
WB	★★★★★ (1)	Use at an assay dependent concentration. Predicted molecular weight: 34 kDa.
IHC-P		Use at an assay dependent concentration.

Target

Function	Plays a key role in the control of the eukaryotic cell cycle. It is required in higher cells for entry into S-phase and mitosis. p34 is a component of the kinase complex that phosphorylates the repetitive C-terminus of RNA polymerase II.
Tissue specificity	Isoform 2 is found in breast cancer tissues.
Sequence similarities	Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. CDC2/CDKX subfamily. Contains 1 protein kinase domain.
Cellular localization	Nucleus.
Form	CDK1 can be located to the Nucleus, cytoplasm and Mithocondria. It's cytoplasmic during interphase and reversibly translocated from cytoplasm to the nucleus when phosphorilated before G2-M transition when associated with cyclin-B1. Accumulates in mitochondria in G2-arrested cells upon DNA-damage.

Images



Western blot - Anti-CDK1 antibody [A17] (ab18)

All lanes : Anti-CDK1 antibody [A17] (ab18) at 5 µg/ml

Lane 1 : HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate
Lane 2 : Jurkat (Human T cell lymphoblast-like cell line) Whole Cell Lysate
Lane 3 : MCF7 (Human breast adenocarcinoma cell line) Whole Cell Lysate
Lane 4 : A431 (Human epithelial carcinoma cell line) Whole Cell Lysate
Lane 5 : RAW 264.7 (Mouse leukaemic monocyte macrophage cell line) Whole Cell Lysate
Lane 6 : NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Rabbit Anti-Mouse IgG H&L (HRP) (**ab97046**) at 1/10000 dilution

Developed using the ECL technique.

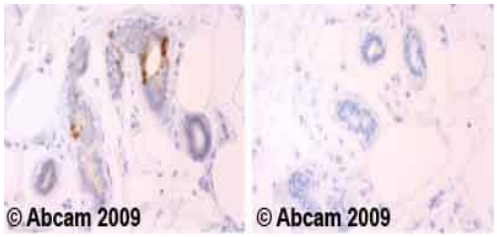
Performed under reducing conditions.

Predicted band size: 34 kDa
Observed band size: 35 kDa

Exposure time: 4 minutes

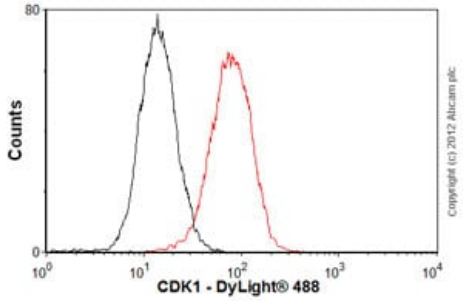
This blot was produced using a 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 2% Bovine Serum Albumin before being incubated with ab18 overnight at 4°C. Antibody binding was detected using an anti-mouse antibody

conjugated to HRP, and visualised using ECL development solution.



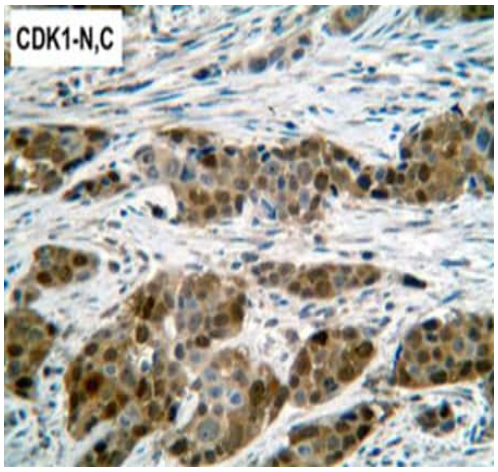
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDK1 antibody [A17] (ab18)

Ab18 staining human skin. Staining is localized to the cytoplasm and nucleus.
Left panel: with primary antibody at 4 ug/ml. Right panel: isotype control.
Sections were stained using an automated system (Dako PT Link), at room temperature. Sections were rehydrated and antigen retrieved with the Dako 3-in-1 antigen retrieval buffer, EDTA pH 9.0. Slides were peroxidase blocked in 3% H2O2 in methanol for 10 minutes. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS) then incubated with primary antibody for 20 minutes and detected with Dako Envision Flex amplification kit for 30 minutes. Colorimetric detection was completed with diaminobenzidine for 5 minutes. Slides were counterstained with Haematoxylin and coverslipped under DePeX. Please note that for manual staining we recommend to optimize the primary antibody concentration and incubation time (overnight incubation), and amplification may be required.



Flow Cytometry (Intracellular) - Anti-CDK1 antibody [A17] (ab18)

Overlay histogram showing MCF7 cells stained with ab18 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab18, 0.5µg/1x10^6 cells) for 30 min at 22ºC. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (**ab96879**) at 1/500 dilution for 30 min at 22ºC. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (**ab91361**, 1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in MCF7 cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDK1 antibody [A17] (ab18)

Image from Zhang C et al., PLoS One. 2011;6(8):e23849. Epub 2011 Aug 24. Fig 3.; doi:10.1371/journal.pone.0023849; August 24, 2011, PLoS ONE 6(8): e23849.

Immunohistochemical analysis of Human lung cancer tissue, staining CDK1 with ab18 at 1/100 dilution.

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