abcam

Product datasheet

Anti-Cdc25A antibody ab47400

2 References 2 Images

Overview

Product name	Anti-Cdc25A antibody
Description	Rabbit polyclonal to Cdc25A
Host species	Rabbit
Specificity	This antibody is specific for Cdc25A.
Tested applications	**Suitable for:** IHC-P, WB, ELISA
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat
Immunogen	A synthesized non-phosphopeptide derived from human Cdc25A around the phosphorylation site of serine 75.
Positive control	Extracts from A2780 cells
General notes	Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough. Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility. We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee. In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for. We are also updating the applications & species that this product has been "predicted to work with," however this information is not covered by our Abpromise guarantee. Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee. 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, as well as 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: 7.40 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.87% Sodium chloride
Purity	Immunogen affinity purified
Purification notes	The antibody was affinity purified from rabbit antiserum by affinity chromatography using epitope specific immunogen.
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab47400** in the following tested applications.

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

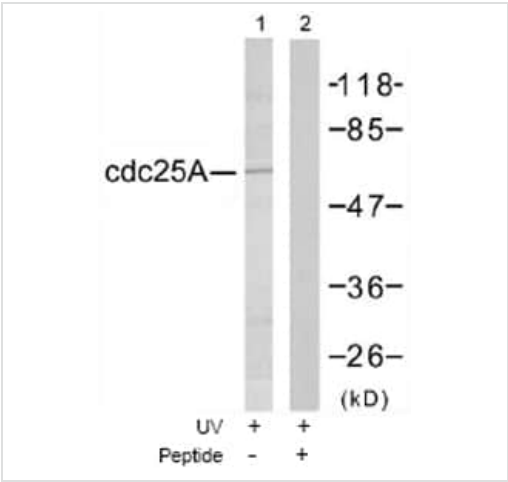
Application	Abreviews	Notes
IHC-P		Use a concentration of 2 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
WB		1/500 - 1/1000. Detects a band of approximately 59 kDa (predicted molecular weight: 59 kDa).
ELISA		1/10000.

Target

Function	Tyrosine protein phosphatase which functions as a dosage-dependent inducer of mitotic progression. Directly dephosphorylates CDK1 and stimulates its kinase activity. Also dephosphorylates CDK2 in complex with cyclin E, in vitro.
Sequence similarities	Belongs to the MPI phosphatase family. Contains 1 rhodanese domain.
Domain	The phosphodegron motif mediates interaction with specific F-box proteins when phosphorylated. Putative phosphorylation sites at Ser-79 and Ser-82 appear to be essential for this interaction.
Post-translational modifications	Phosphorylated by CHEK1 on Ser-76, Ser-124, Ser-178, Ser-279, Ser-293 and Thr-507 during checkpoint mediated cell cycle arrest. Also phosphorylated by CHEK2 on Ser-124, Ser-279, and Ser-293 during checkpoint mediated cell cycle arrest. Phosphorylation on Ser-178 and Thr-507 creates binding sites for YWHAE/14-3-3 epsilon which inhibits CDC25A. Phosphorylation on Ser-76, Ser-124, Ser-178, Ser-279 and Ser-293 may also promote ubiquitin-dependent proteolysis of CDC25A by the SCF complex. Phosphorylation of CDC25A at Ser-76 by CHEK1 primes it for subsequent phosphorylation at Ser-79, Ser-82 and Ser-88 by NEK11. Phosphorylation by NEK11 is required for BTRC-mediated polyubiquitination and degradation. Phosphorylation by PIM1 leads to an increase in phosphatase activity. Phosphorylated by PLK3 following DNA damage, leading to promote its ubiquitination and degradation. Ubiquitinated by the anaphase promoting complex/cyclosome (APC/C) ubiquitin ligase complex that contains FZR1/CDH1 during G1 phase leading to its degradation by the proteasome.

Ubiquitinated by a SCF complex containing BTRC and FBXW11 during S phase leading to its degradation by the proteasome. Deubiquitination by USP17L2/DUB3 leads to its stabilization.

Images

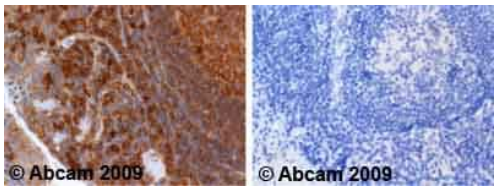


Western blot - Anti-Cdc25A antibody (ab47400)

All lanes : Anti-Cdc25A antibody (ab47400) at 1/500 dilution

Lane 1 : Extracts from A2780 cells treated with UV
Lane 2 : Extracts from A2780 cells treated with UV and peptide

Predicted band size: 59 kDa
Observed band size: 59 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cdc25A antibody (ab47400)

Ab47400 staining human tonsil. Staining is localised to cytoplasm. Left panel: with primary antibody at 2 ug/ml. Right panel: isotype control.
Sections were stained using an automated system DAKO Autostainer Plus , at room temperature. Sections were rehydrated and antigen retrieved with the Dako 3-in-1 antigen retrieval buffers EDTA pH 9.0 in a DAKO PT Link. 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.

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