

Rabbit CDC25A Polyclonal Antibody | anti-CDC25A antibody

CDC25A Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326086	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

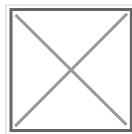
PRODUCT SYNONYMS

CDC25A; Polyclonal Antibody; CDC25A Antibody; Cdc 25a; CDC25A2; CDC25A2 CAG isoform; Cell division cycle 25 homolog A (S. pombe); Cell division cycle 25A; Cell division cycle 25A isoform a; Cell division cycle 25A isoform b; D9Ert393e; Dual specificity phosphatase Cdc25A; M phase inducer phosphatase 1; M-phase inducer phosphatase 1; MGC115549; MPIP1_HUMAN; anti-CDC25A antibody

PRODUCT SPECIFICATIONS

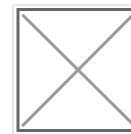
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	CDC25A antibody detects endogenous levels of total CDC25A
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	524
Applicable Applications for anti-CDC25A antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human CDC25A
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IHC (Immunohistochemistry)

AAA326086 at 1/100 staining Rat spleen tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IF (Immunofluorescence)

AAA326086 staining HeLa cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



WB (Western Blot)
Western blot analysis of MCF7 cell lysate, using CDC25A Antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-CDC25A antibody	Description: The cdc25 protein phosphatase family plays a critical role in activating cyclin-dependent kinases (CDKs) via dephosphorylation of conserved Thr14/Tyr15 inhibitory phosphorylation sites. While cdc25C is primarily responsible for activating CDK1 to overcome the G2/M checkpoint and allow mitotic entry, the primary substrate of cdc25A is CDK2, which, when active, allows progression through the G1/S and intra-S checkpoints (1). Abundance, subcellular localization and activity of cdc25A is tightly controlled by a variety of mechanisms, including phosphorylation, ubiquitination, and inhibitory binding to 14-3-3 proteins. During normal cell cycle progression, elevated c-Myc and E2F transcription factor levels lead to increased cdc25A expression (2). When conditions are favorable for DNA synthesis, cdc25A and CDK2 form an activation loop, wherein each activates the other enzyme (1). DNA damage, on the other hand, leads to multisite phosphorylation at inhibitory sites (Ser123, Ser177, Ser278, Ser292, and Thr506) by Chk1 and Chk2, which result in 14-3-3 binding and ubiquitin-mediated degradation (3, 4). 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. Subunit Structure: Interacts with CCNB1/cyclin B1. Interacts with YWHAE/14-3-3 epsilon when phosphorylated. Interacts with CUL1 specifically when CUL1 is neddylated and active. Interacts with BTRC/BTRCP1 and FBXW11/BTRCP2. Interactions with CUL1, BTRC and FBXW11 are enhanced upon DNA damage. Interacts with PIM1. Interacts with CHEK2; mediates CDC25A phosphorylation and degradation in response to infrared-induced DNA damages. Interacts with HSP90AB1; prevents heat shock-mediated CDC25A degradation and contributes to cell cycle progression (PubMed:22843495). 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. Similarity: 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. Belongs to the MPI phosphatase family.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	42490758
NCBI GeneID	993
NCBI Accession #	NP_001780.2
NCBI GenBank Nucleotide #	NM_001789.2
UniProt Accession #	P30304; Q8IZH5; Q96IL3; Q9H2F2
Molecular Weight	Observed: 59 kDa Predicted: 60 kDa
NCBI Official Full Name	M-phase inducer phosphatase 1 isoform a
NCBI Official Synonym Full Names	cell division cycle 25A

NCBI Official Symbol	CDC25A
NCBI Official Synonym Symbols	CDC25A2
NCBI Protein Information	M-phase inducer phosphatase 1
UniProt Protein Name	M-phase inducer phosphatase 1
UniProt Gene Name	CDC25A

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/cdc25a-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/326086>