

Rabbit CDK2 Polyclonal Antibody | anti-CDK2 antibody

CDK2 Antibody

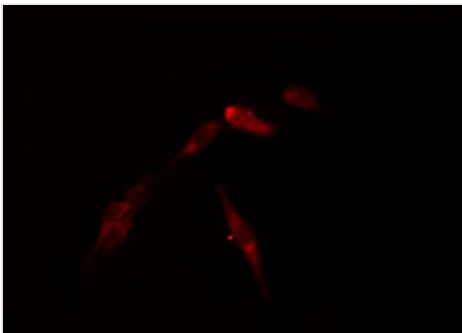
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA322272	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Western Blot

PRODUCT SYNONYMS

CDK2; Polyclonal Antibody; CDK2 Antibody; Cdc2 related protein kinase; cdc2-related protein kinase; CDC28; CDC2A; Cdk 2; CDK1; CDK2_HUMAN; CDKN2; Cell division kinase 2; Cell division protein kinase 2; Cyclin dependent kinase 2; cyclin dependent kinase 2-alpha; Cyclin-dependent kinase 2; kinase Cdc2; MPF; p33 protein kinase; p33(CDK2); anti-CDK2 antibody

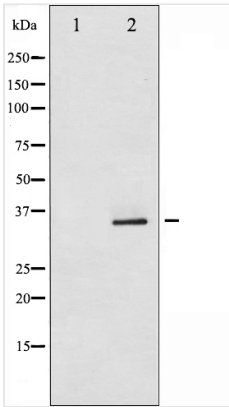
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	CDK2 antibody detects endogenous levels of total CDK2
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	238
Applicable Applications for anti-CDK2 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), WB (Western Blot)
Immunogen	A synthesized peptide derived from human CDK2
Subcellular Location	Endosome; Nucleus; Cytoskeleton
Tissue Specificity	Induced transiently by TGFβ1 at an early phase of TGFβ1-mediated apoptosis.
Predicted Cross Reactivity	Pig, Zebrafish, Bovine, Horse, Sheep, Rabbit, Dog, Chicken, Xenopus
Similarity	Pig (100%), Zebrafish (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%), Chicken (100%), Xenopus (91%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IF (Immunofluorescence)

AAA322272 staining Hela 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) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of CDK2 expression in A2780 whole cell lysates, The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-CDK2 antibody	Description: The protein encoded by this gene is a member of the Ser/Thr protein kinase family. This protein is a catalytic subunit of the highly conserved protein kinase complex known as M-phase promoting factor (MPF), which is essential for G1/S and G2/M phase transitions of eukaryotic cell cycle. Function: Serine/threonine-protein kinase involved in the control of the cell cycle; essential for meiosis, but dispensable for mitosis. Phosphorylates CTNNB1, USP37, p53/TP53, NPM1, CDK7, RB1, BRCA2, MYC, NPAT, EZH2. Triggers duplication of centrosomes and DNA. Acts at the G1-S transition to promote the E2F transcriptional program and the initiation of DNA synthesis, and modulates G2 progression; controls the timing of entry into mitosis/meiosis by controlling the subsequent activation of cyclin B/CDK1 by phosphorylation, and coordinates the activation of cyclin B/CDK1 at the centrosome and in the nucleus. Crucial role in orchestrating a fine balance between cellular proliferation, cell death, and DNA repair in human embryonic stem cells (hESCs). Activity of CDK2 is maximal during S phase and G2; activated by interaction with cyclin E during the early stages of DNA synthesis to permit G1-S transition, and subsequently activated by cyclin A2 (cyclin A1 in germ cells) during the late stages of DNA replication to drive the transition from S phase to mitosis, the G2 phase. EZH2 phosphorylation promotes H3K27me3 maintenance and epigenetic gene silencing. Phosphorylates CABLES1 (By similarity). Cyclin E/CDK2 prevents oxidative stress-mediated Ras-induced senescence by phosphorylating MYC. Involved in G1-S phase DNA damage checkpoint that prevents cells with damaged DNA from initiating mitosis; regulates homologous recombination-dependent repair by phosphorylating BRCA2, this phosphorylation is low in S phase when recombination is active, but increases as cells progress towards mitosis. In response to DNA damage, double-strand break repair by homologous recombination a reduction of CDK2-mediated BRCA2 phosphorylation. Phosphorylation of RB1 disturbs its interaction with E2F1. NPM1 phosphorylation by cyclin E/CDK2 promotes its dissociates from unduplicated centrosomes, thus initiating centrosome duplication. Cyclin E/CDK2-mediated phosphorylation of NPAT at G1-S transition and until prophase stimulates the NPAT-mediated activation of histone gene transcription during S phase. Required for vitamin D-mediated growth inhibition by being itself inactivated. Involved in the nitric oxide-(NO) mediated signaling in a nitrosylation/activation-dependent manner. USP37 is activated by phosphorylation and thus triggers G1-S transition. CTNNB1 phosphorylation regulates insulin internalization. Phosphorylates FOXF3 and negatively regulates its transcriptional activity and protein stability (By similarity). Phosphorylates CDK2AP2 (PubMed:12944431). Subunit Structure: Found in a complex with CABLES1, CCNA1 and CCNE1. Interacts with CABLES1 (By similarity). Interacts with UHRF2. Part of a complex consisting of UHRF2, CDK2 and CCNE1. Interacts with the Speedy/Ringo proteins SPDYA and SPDYC (PubMed:15611625). Interaction with SPDYA promotes kinase activation via a conformation change that alleviates obstruction of the substrate-binding cleft by the T-loop (PubMed:28666995). Found in a complex with both SPDYA and CDKN1B/KIP1 (PubMed:12972555, PubMed:28666995). Binds to RB1 and CDK7. Binding to CDKN1A (p21) leads to CDK2/cyclin E inactivation at the G1-S phase DNA damage checkpoint, thereby arresting cells at the G1-S transition during DNA repair. Associated with PTPN6 and beta-catenin/CTNNB1. Interacts with CACUL1. May interact with CEP63. Interacts with ANKRD17. Interacts with CEBPA (when phosphorylated) (PubMed:15107404). Forms a ternary complex with CCNA2 and CDKN1B; CDKN1B inhibits the kinase activity of CDK2 through conformational rearrangements (PubMed:8684460). Interacts with cyclins A, B1, B3, D, or E (PubMed:10499802, PubMed:10884347, PubMed:12185076, PubMed:23781148). Interacts with CDK2AP2 (PubMed:23781148). Post-translational Modifications: Phosphorylated at Thr-160 by CDK7 in a CAK complex (PubMed:28666995). Phosphorylation at Thr-160 promotes kinase activity, whereas phosphorylation at Tyr-15 by WEE1 reduces slightly kinase activity. Phosphorylated on Thr-14 and Tyr-15 during S and G2 phases before being dephosphorylated by CDC25A.Nitrosylated after treatment with nitric oxide (DETA-NO). Similarity: Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. CDC2/CDKX subfamily.
References	Huang YX, Song H, Tao Y, Shao XB, Zeng XS, Xu XL, Qi JL, Sun JF; Journal: PLoS One. Ovostatin 2 knockdown significantly inhibits the growth, migration, and tumorigenicity of cutaneous malignant melanoma cells.

NCBI AND UNIPROT INFORMATION

NCBI GI #	589811557
NCBI GeneID	1017
NCBI Accession #	NP_001277159.1
NCBI GenBank Nucleotide #	NM_001290230.1
UniProt Accession #	P24941; O75100; A8K7C6
Molecular Weight	Observed: 34 kDa Predicted: 34 kDa

NCBI Official Full Name	cyclin-dependent kinase 2 isoform 3
NCBI Official Synonym Full Names	cyclin dependent kinase 2
NCBI Official Symbol	CDK2
NCBI Official Synonym Symbols	CDKN2; p33(CDK2)
NCBI Protein Information	cyclin-dependent kinase 2
UniProt Protein Name	Cyclin-dependent kinase 2
UniProt Gene Name	CDK2
UniProt Synonym Gene Names	CDKN2

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://www.aaabiotech.com/polyclonal/cdk2-antibody-immunocytochemistry-immunofluorescence-western-blot-elisa/322272>