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Mouse Cdk2 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP16161b

Specification

Mouse Cdk2 Antibody (C-term) - Product Information

Application	WB,E
Primary Accession	P97377
Other Accession	NP_904326.1, NP_058036.1
Reactivity	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Calculated MW	38978
Antigen Region	227-254

Mouse Cdk2 Antibody (C-term) - Additional Information

Gene ID 12566

Other Names
Cyclin-dependent kinase 2, Cell division protein kinase 2, Cdk2, Cdkn2

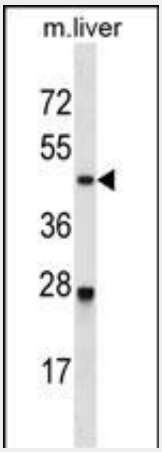
Target/Specificity
This Mouse Cdk2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 227-254 amino acids from the C-terminal region of mouse Cdk2.

Dilution
WB~~1:1000

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions



Mouse Cdk2 Antibody (C-term) (Cat. #AP16161b) western blot analysis in mouse liver tissue lysates (35ug/lane).This demonstrates the Cdk2 antibody detected the Cdk2 protein (arrow).

Mouse Cdk2 Antibody (C-term) - Background

Cdk2 is involved in the control of the cell cycle. Interacts with cyclins A, B1, B3, D, or E. Activity of CDK2 is maximal during S phase and G2 (By similarity).

Mouse Cdk2 Antibody (C-term) - References

Puyol, M., et al. Cancer Cell 18(1):63-73(2010)
Hodeify, R., et al. Am. J. Physiol. Renal Physiol. 299 (1), F112-F120 (2010) :
Risley, M.D., et al. Dev. Biol. 342(2):146-156(2010)
Copeland, N.A., et al. J. Cell. Sci. 123 (PT 7), 1108-1115 (2010) :
Koledova, Z., et al. Stem Cells 28(3):450-461(2010)

Mouse Cdk2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Mouse Cdk2 Antibody (C-term) - Protein Information

Name Cdk2

Synonyms Cdkn2

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 FOXP3 and negatively regulates its transcriptional activity and protein stability (PubMed:<a hr ef="http://www.uniprot.org/citations/23853 094" target="_blank">23853094). Phosphorylates CDK2AP2 (By similarity). Phosphorylates ERCC6 which is essential for its chromatin remodeling activity at DNA double-strand breaks (By similarity).

Cellular Location
Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Nucleus, Cajal body Cytoplasm. Endosome. Note=Localized at the centrosomes in late G2 phase after separation of the centrosomes but before the start of prophase. Nuclear-cytoplasmic trafficking is mediated during the inhibition by 1,25-(OH)(2)D(3) (By similarity)

Mouse Cdk2 Antibody (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture