CDK2 Antibody (T14)
Peptide Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7518d

Specification

CDK2 Antibody (T14) - Product Information

<table>
<thead>
<tr>
<th>Application</th>
<th>WB, IHC-P,E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Accession</td>
<td>P24941, Q80YP0, Q00526, P23437, Q63699, P97377, Q55076, Q5E9Y0</td>
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<td>Other Accession</td>
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<tr>
<td>Reactivity</td>
<td>Human</td>
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<tr>
<td>Predicted Reactivity</td>
<td>Bovine, Hamster, Mouse, Rat, Xenopus</td>
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<td>Host</td>
<td>Rabbit</td>
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<tr>
<td>Clonality</td>
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<td>Isotype</td>
<td>Rabbit Ig</td>
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<td>Antigen Region</td>
<td>1-30</td>
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</tbody>
</table>

CDK2 Antibody (T14) - Additional Information

Gene ID 1017

Other Names
Cyclin-dependent kinase 2, Cell division protein kinase 2, p33 protein kinase, CDK2, CDKN2

Target/Specificity
This CDK2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from human CDK2.

Dilution
WB—~1:1000
IHC-P—~1:10~50

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
CDK2 Antibody (T14) is for research use only and not for use in diagnostic or therapeutic procedures.

CDK2 Antibody (T14) - Background

CDK2 is a member of the Ser/Thr protein kinase family. This protein kinase is highly similar to the gene products of S. cerevisiae cdc28, and S.
CDK2 Antibody (T14) - 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 CABLIE1 (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 (By similarity). Phosphorylates CDK2AP2 (PubMed:<a href="http://www.uniprot.org/citations/12944431"
pombe cdc2. It is a catalytic subunit of the cyclin-dependent protein kinase complex, whose activity is restricted to the G1-S phase, and essential for cell cycle G1/S phase transition. This protein associates with and is regulated by the regulatory subunits of the complex including cyclin A or E, CDK inhibitor p21Cip1 (CDKN1A) and p27Kip1 (CDKN1B). Its activity is also regulated by its protein phosphorylation.

CDK2 Antibody (T14) - References

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)

CDK2 Antibody (T14) - Protocols

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

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

CDK2 Antibody (T14) - Citations
- Targeting the overexpressed CREB inhibits esophageal squamous cell carcinoma cell growth.