

**ARG62434**  
anti-CDK2 antibody [2B6]Package: 100 µl, 50 µl  
Store at: -20°C

### Summary

Product Description	Mouse Monoclonal antibody [2B6] recognizes CDK2
Tested Reactivity	Hu, Ms, Rat
Tested Application	FACS, IHC-Fr, IHC-P, IP, WB
Specificity	This antibody reacts with a 33 kD protein known as cdk2
Host	Mouse
Clonality	Monoclonal
Clone	2B6
Isotype	IgG2b
Target Name	CDK2
Species	Human
Immunogen	Recombinant full length protein (Human)
Conjugation	Un-conjugated
Alternate Names	p33 protein kinase; Cell division protein kinase 2; p33(CDK2); CDKN2; EC 2.7.11.22; Cyclin-dependent kinase 2

### Application Instructions

Application Note	IHC: 1/25 - 1/50 FACS: 1µg for 106 cells WB: 1/100 - 1/500 IP: 1/100 - 1/500 * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
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### Properties

Form	Liquid
Buffer	PBS (pH 7.4), 1% BSA and 0.05% Sodium azide
Preservative	0.05% Sodium azide
Stabilizer	1% BSA
Concentration	0.2 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Database links	<a href="#">GeneID: 1017 Human</a> <a href="#">GeneID: 12566 Mouse</a> <a href="#">Swiss-port # P24941 Human</a> <a href="#">Swiss-port # P97377 Mouse</a>
Gene Symbol	CDK2
Gene Full Name	cyclin-dependent kinase 2
Background	This gene encodes a member of a family of serine/threonine protein kinases that participate in cell cycle regulation. The encoded protein is the catalytic subunit of the cyclin-dependent protein kinase complex, which regulates progression through the cell cycle. Activity of this protein is especially critical during the G1 to S phase transition. This protein associates with and regulated by other subunits of the complex including cyclin A or E, CDK inhibitor p21Cip1 (CDKN1A), and p27Kip1 (CDKN1B). Alternative splicing results in multiple transcript variants. [provided by RefSeq, Mar 2014]
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. Interacts with cyclins A, B1, B3, D, or E. 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 (By similarity). [UniProt]
Highlight	Related products: <a href="#">Cdk2 antibodies</a> ; <a href="#">Anti-Mouse IgG secondary antibodies</a> ;
Research Area	Cancer antibody; Cell Biology and Cellular Response antibody; Gene Regulation antibody
Calculated Mw	34 kDa
PTM	Phosphorylated at Thr-160 by CDK7 in a CAK complex. 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).