

## Anti-Phospho-CDK2 (Y15) Rabbit Monoclonal Antibody Catalog # ABO14377

### Specification

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#### Anti-Phospho-CDK2 (Y15) Rabbit Monoclonal Antibody - Product Information

Application	WB, IHC, IP
Primary Accession	<a href="#">P24941</a>
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid

#### Description

Anti-Phospho-CDK2 (Y15) Rabbit Monoclonal Antibody . Tested in WB, IHC, IP applications. This antibody reacts with Human, Mouse, Rat.

#### Anti-Phospho-CDK2 (Y15) Rabbit Monoclonal Antibody - Additional Information

**Gene ID** 1017

#### Other Names

Cyclin-dependent kinase 2, 2.7.11.22, Cell division protein kinase 2, p33 protein kinase, CDK2, CDKN2

#### Application Details

WB 1:1000-1:2000<br>IHC 1:50-1:200<br>IP 1:50

#### Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

#### Immunogen

A synthesized peptide derived from human CDK2.

#### Purification

Affinity-chromatography

**Storage**

**Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.**

#### Anti-Phospho-CDK2 (Y15) Rabbit Monoclonal Antibody - 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 (PubMed: [10499802](http://www.uniprot.org/citations/10499802)), PubMed: [10884347](http://www.uniprot.org/citations/10884347)), PubMed: [10995386](http://www.uniprot.org/citations/10995386)), PubMed: [10995387](http://www.uniprot.org/citations/10995387)), PubMed: [11051553](http://www.uniprot.org/citations/11051553)), PubMed: [11113184](http://www.uniprot.org/citations/11113184)), PubMed: [12944431](http://www.uniprot.org/citations/12944431)), PubMed: [15800615](http://www.uniprot.org/citations/15800615)), PubMed: [17495531](http://www.uniprot.org/citations/17495531)), PubMed: [19966300](http://www.uniprot.org/citations/19966300)), PubMed: [20935635](http://www.uniprot.org/citations/20935635)), PubMed: [21262353](http://www.uniprot.org/citations/21262353)), PubMed: [21596315](http://www.uniprot.org/citations/21596315)), PubMed: [28216226](http://www.uniprot.org/citations/28216226)), PubMed: [28666995](http://www.uniprot.org/citations/28666995)). Phosphorylates CABLES1, CTNNB1, CDK2AP2, ERCC6, NBN, USP37, p53/TP53, NPM1, CDK7, RB1, BRCA2, MYC, NPAT, EZH2 (PubMed: [10499802](http://www.uniprot.org/citations/10499802)), PubMed: [10995386](http://www.uniprot.org/citations/10995386)), PubMed: [10995387](http://www.uniprot.org/citations/10995387)), PubMed: [11051553](http://www.uniprot.org/citations/11051553)), PubMed: [11113184](http://www.uniprot.org/citations/11113184)), PubMed: [12944431](http://www.uniprot.org/citations/12944431)), PubMed: [15800615](http://www.uniprot.org/citations/15800615)), PubMed: [19966300](http://www.uniprot.org/citations/19966300)), PubMed: [20935635](http://www.uniprot.org/citations/20935635)), PubMed: [21262353](http://www.uniprot.org/citations/21262353)), PubMed: [21596315](http://www.uniprot.org/citations/21596315)), PubMed: [28216226](http://www.uniprot.org/citations/28216226)). Triggers duplication of centrosomes and DNA (PubMed: [11051553](http://www.uniprot.org/citations/11051553)). 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 (PubMed: [18372919](http://www.uniprot.org/citations/18372919)), PubMed: [19238148](http://www.uniprot.org/citations/19238148)), PubMed: [19561645](http://www.uniprot.org/citations/19561645)). Crucial role in orchestrating a fine balance between cellular proliferation, cell death, and DNA repair in embryonic stem cells (ESCs) (PubMed: [18372919](http://www.uniprot.org/citations/18372919)), PubMed: [19238148](http://www.uniprot.org/citations/19238148)), PubMed: [19561645](http://www.uniprot.org/citations/19561645)). 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 (PubMed: [18372919](http://www.uniprot.org/citations/18372919)), PubMed: [19238148](http://www.uniprot.org/citations/19238148)), PubMed: [19561645](http://www.uniprot.org/citations/19561645)). EZH2 phosphorylation promotes H3K27me3 maintenance and epigenetic gene silencing (PubMed: [20935635](http://www.uniprot.org/citations/20935635)). Cyclin E/CDK2 prevents oxidative stress-mediated Ras-induced senescence by phosphorylating MYC (PubMed: [19966300](http://www.uniprot.org/citations/19966300)). 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 (PubMed: [15800615](http://www.uniprot.org/citations/15800615), PubMed: [20195506](http://www.uniprot.org/citations/20195506), PubMed: [21319273](http://www.uniprot.org/citations/21319273)). In response to DNA damage, double-strand break repair by homologous recombination a reduction of CDK2-mediated BRCA2 phosphorylation (PubMed: [15800615](http://www.uniprot.org/citations/15800615)). Involved in regulation of telomere repair by mediating phosphorylation of NBN (PubMed: [28216226](http://www.uniprot.org/citations/28216226)). Phosphorylation of RB1 disturbs its interaction with E2F1 (PubMed: [10499802](http://www.uniprot.org/citations/10499802)). NPM1 phosphorylation by cyclin E/CDK2 promotes its dissociates from unduplicated centrosomes, thus initiating centrosome duplication (PubMed: [11051553](http://www.uniprot.org/citations/11051553)). 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 (PubMed: [10995386](http://www.uniprot.org/citations/10995386), PubMed: [10995387](http://www.uniprot.org/citations/10995387)). Required for vitamin D-mediated growth inhibition by being itself inactivated (PubMed: [20147522](http://www.uniprot.org/citations/20147522)). Involved in the nitric oxide- (NO) mediated signaling in a nitrosylation/activation-dependent manner (PubMed: [20079829](http://www.uniprot.org/citations/20079829)). USP37 is activated by phosphorylation and thus triggers G1-S transition (PubMed: [21596315](http://www.uniprot.org/citations/21596315)). CTNNB1 phosphorylation regulates insulin internalization (PubMed: [21262353](http://www.uniprot.org/citations/21262353)). Phosphorylates FOXP3 and negatively regulates its transcriptional activity and protein stability (By similarity). Phosphorylates ERCC6 which is essential for its chromatin remodeling activity at DNA double-strand breaks (PubMed: [29203878](http://www.uniprot.org/citations/29203878)).

#### Cellular Location

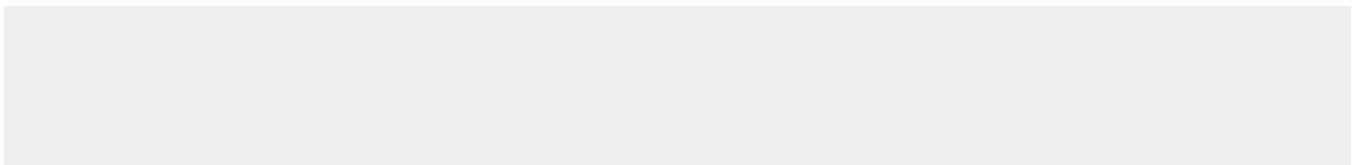
Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Nucleus, Cajal body. Cytoplasm. Endosome Note=Localized at the centrosomes in late G2 phase after separation of the centrosomes but before the start of prophase. Nuclear-cytoplasmic trafficking is mediated during the inhibition by 1,25-(OH)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

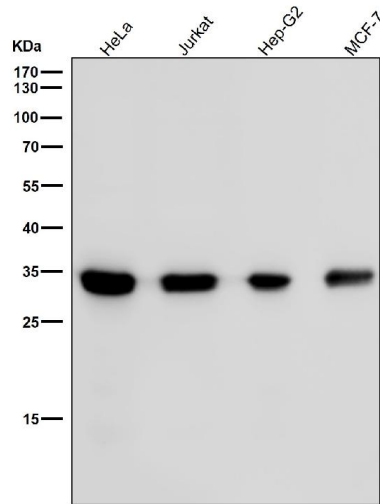
#### Anti-Phospho-CDK2 (Y15) Rabbit Monoclonal Antibody - Protocols

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

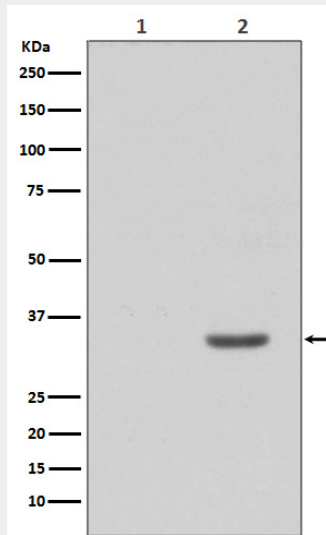
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### Anti-Phospho-CDK2 (Y15) Rabbit Monoclonal Antibody - Images

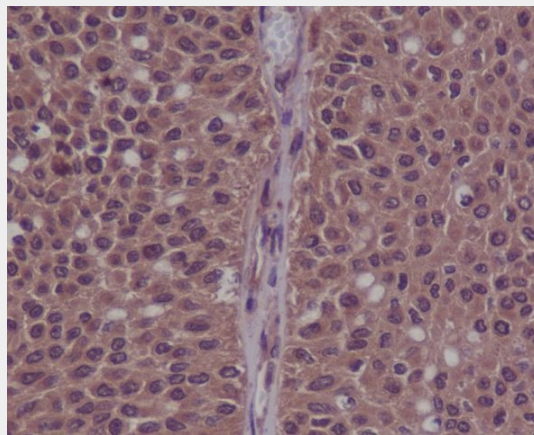




All lanes use the Antibody at 1:1W dilution for 1 hour at room temperature.



Western blot analysis of Phospho-CDK2 (Y15) expression in (1) HeLa treated with AP; (2) HeLa cell lysate.



Immunohistochemical analysis of paraffin-embedded human bladder cancer, using Phospho-CDK2 (Y15) Antibody.