

Datasheet for ABIN7148865  
**anti-CDK2 antibody (AA 1-298)**

## 5 Images

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## Overview

Quantity:	100 µg
Target:	CDK2
Binding Specificity:	AA 1-298
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This CDK2 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), ELISA, Immunoprecipitation (IP), Immunofluorescence (IF)

## Product Details

Immunogen:	Recombinant Human Cyclin-dependent kinase 2 protein (1-298AA)
Isotype:	IgG
Cross-Reactivity:	Human
Purification:	>95%, Protein G purified

## Target Details

Target:	CDK2
Alternative Name:	CDK2 ( <a href="#">CDK2 Products</a> )
Background:	Background: 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. 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. Aliases: Cdc2 related protein kinase antibody, cdc2-related protein kinase antibody, CDC28 antibody, CDC2A antibody, Cdk 2 antibody, CDK1 antibody, CDK2 antibody, CDK2\_HUMAN antibody, CDKN2 antibody, Cell division kinase 2 antibody, Cell division protein kinase 2 antibody, Cyclin dependent kinase 2 antibody, cyclin dependent kinase 2-alpha antibody, Cyclin-dependent kinase 2 antibody, kinase Cdc2 antibody, MPF antibody, p33 protein kinase antibody, p33(CDK2) antibody

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UniProt: [P24941](#)

Pathways: [PI3K-Akt Signaling](#), [Cell Division Cycle](#), [Mitotic G1-G1/S Phases](#), [DNA Replication](#), [M Phase](#),

## Target Details

Synthesis of DNA

## Application Details

Application Notes: Recommended dilution: WB:1:1000-1:5000, IHC:1:500-1:1000, IF:1:200-1:500, IP:1:200-1:2000,

Restrictions: For Research Use only

## Handling

Format: Liquid

Buffer: Preservative: 0.03 % Proclin 300  
Constituents: 50 % Glycerol, 0.01M PBS, PH 7.4

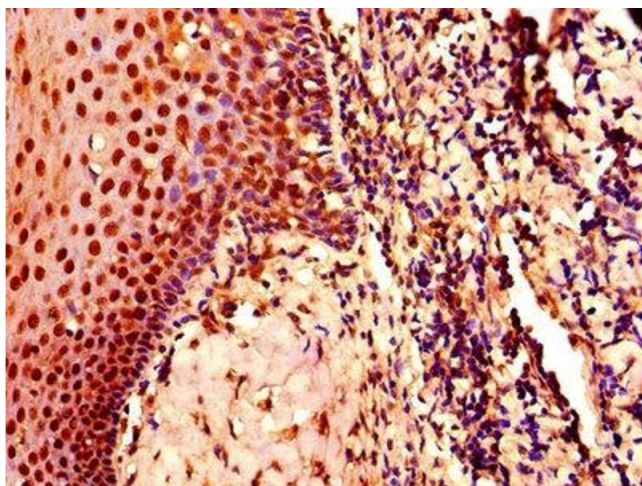
Preservative: ProClin

Precaution of Use: This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: -20 °C,-80 °C

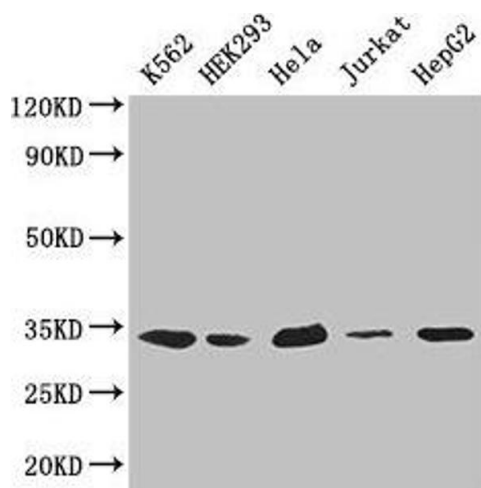
Storage Comment: Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.

## Images



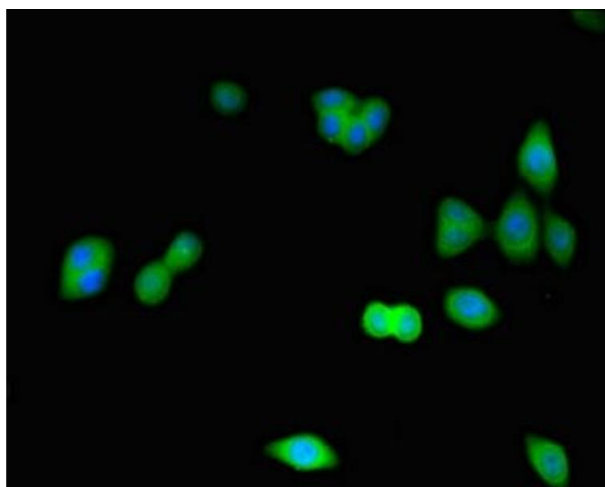
### Immunohistochemistry

**Image 1.** IHC image of ABIN7148865 diluted at 1:800 and staining in paraffin-embedded human tonsil tissue performed on a Leica Bond™ system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



### Western Blotting

**Image 2.** Western Blot Positive WB detected in: K562 whole cell lysate, HEK293 whole cell lysate, HeLa whole cell lysate, Jurkat whole cell lysate, HepG2 whole cell lysate All lanes: CDK2 antibody at 2.6 µg/mL Secondary Goat polyclonal to rabbit IgG at 1/50000 dilution Predicted band size: 34, 31 kDa Observed band size: 34 kDa



### Immunofluorescence

**Image 3.** Immunofluorescence staining of HepG2 cells with ABIN7148865 at 1:266, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG(H+L).

Please check the [product details page](#) for more images. Overall 5 images are available for ABIN7148865.