

Datasheet for ABIN6255602
anti-CDK2 antibody (pThr160)



[Go to Product page](#)

3 Images

1 Publication

Overview

Quantity:	100 µL
Target:	CDK2
Binding Specificity:	pThr160
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This CDK2 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), ELISA, Immunofluorescence (IF), Immunocytochemistry (ICC)

Product Details

Immunogen:	A synthesized peptide derived from human CDK2 around the phosphorylation site of Thr160.
Isotype:	IgG
Specificity:	Phospho-CDK2 (Thr160) Antibody detects endogenous levels of CDK2 only when phosphorylated at Threonine 160.
Predicted Reactivity:	Pig,Zebrafish,Bovine,Horse,Sheep,Rabbit,Dog,Chicken,Xenopus
Purification:	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho- and non-phospho-peptide affinity columns.

Target Details

Target:	CDK2
---------	------

Target Details

Alternative Name:	CDK2 (CDK2 Products)
Background:	Description: 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 (By similarity). Phosphorylates CDK2AP2 (PubMed:12944431). Gene: CDK2
Molecular Weight:	34kDa
Gene ID:	1017
UniProt:	P24941

Target Details

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

Application Details

Application Notes: WB 1:500-1:2000, IHC 1:50-1:200, IF/ICC 1:100-1:500, ELISA(peptide) 1:20000-1:40000

Restrictions: For Research Use only

Handling

Format: Liquid

Concentration: 1 mg/mL

Buffer: Rabbit IgG in phosphate buffered saline , pH 7.4, 150 mM NaCl, 0.02 % sodium azide and 50 % glycerol.

Preservative: Sodium azide

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

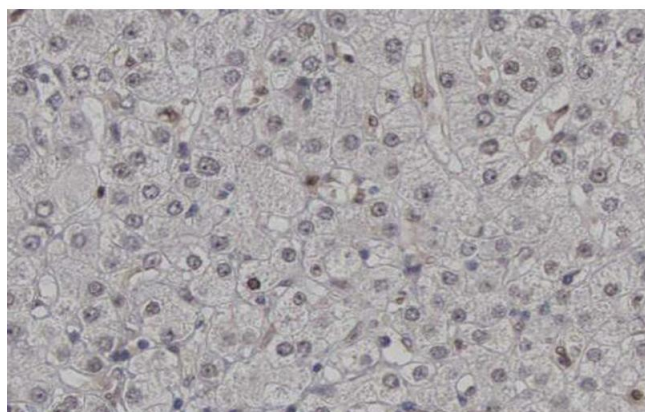
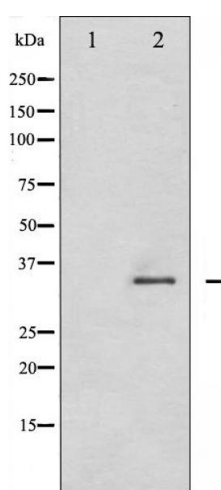
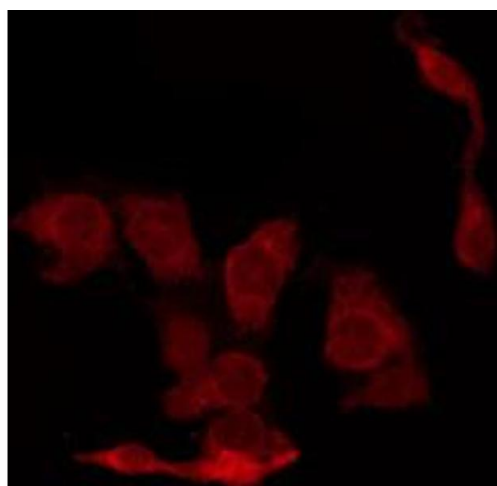
Storage: -20 °C

Storage Comment: Store at -20 °C. Stable for 12 months from date of receipt.

Expiry Date: 12 months

Publications

Product cited in: Liang, Sun, Zhao, Zhang, Gu, Dong, Zhang, Sun, Sun: "Rictor regulates the vasculogenic mimicry of melanoma via the AKT-MMP-2/9 pathway." in: **Journal of cellular and molecular medicine**, Vol. 21, Issue 12, pp. 3579-3591, (2018) ([PubMed](#)).



Immunofluorescence (fixed cells)

Image 1. ABIN6267448 staining A2780 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25°C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37°C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.

Western Blotting

Image 2. Western blot analysis of CDK2 phosphorylation expression in A2780 whole cell lysates, The lane on the left is treated with the antigen-specific peptide.

Immunohistochemistry

Image 3. ABIN6267448 at 1/200 staining human Lymph nodes tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22°C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.