BOSTER BIOLOGICAL TECHNOLOGY
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Anti-CDK2 Antibody

Catalog Number: M00166-1

About CDK2

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.

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Overview

Product Name	Anti-CDK2 Antibody
Reactive Species	Human
Description	Boster Bio Anti-CDK2 Antibody (Catalog # M00166-1). Tested in WB application(s). This antibody reacts with Human.
Application	WB
Clonality	Monoclonal 1534CT665.36.16
Formulation	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide.
Storage Instructions	Maintain refrigerated at 2-8°C for up to 2 weeks. For long-term storage, store at -20°C in small

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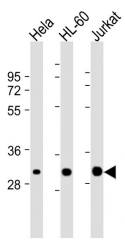
	aliquots to prevent freeze-thaw cycles.
Host	Mouse
Uniprot ID	P24941

Technical Details

Immunogen	This CDK2 antibody is generated from a mouse immunized with protein from human CDK2.
Predicted Reactive Species	Human
Isotype	IgG1,k
Purification	This antibody is purified through a protein G column, followed by dialysis against PBS.
Suggested Dilutions	WB: 1:2000

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Anti-CDK2 Antibody (M00166-1) Images



All lanes : Anti-CDK2 Antibody at 1:2000 dilutionLane 1: Hela whole cell lysateLane 2: HL-60 whole cell lysateLane 3: Jurkat whole cell lysateLysates/proteins at 20 ug per lane. SecondaryGoat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 34 kDaBlocking/Dilution buffer: 5% NFDM/TBST.

Anti-CDK2 Antibody

For Research Use Only. Not for use in diagnostic procedures.