BOSTER BIOLOGICAL TECHNOLOGY
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Anti-CDK1 Antibody Picoband®

Catalog Number: PB9533

About CDK1

CDC2, Cell Division Cycle 2, is also known as CDK1 (Cyclin-dependent Kinase 1). CDC2 is a catalytic subunit of a protein kinase complex, called the M-phase promoting factor that induces entry into mitosis and is universal among eukaryotes. In HeLa cells CDC2 is the most abundant phosphotyrosine-containing protein and its phosphotyrosine content is subject to cell cycle regulation. CDC2 gene is located on chromosome 10.

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Overview

Product Name	Anti-CDK1 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-CDK1 Antibody Picoband® catalog # PB9533. Tested in Flow Cytometry, IF, IHC, IHC-F, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IF, IHC, IHC-F, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9 mg NaCl, 0.2 mg Na2HPO4, and 0.05 mg NaN3. *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P06493

Technical Details

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Immunogen	E.coli-derived human CDK1 recombinant protein (Position: L66-M297). Human CDK1 shares 97.8% and 98.3% amino acid (aa) sequence identity with mouse and rat CDK1, respectively.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P), IHC(F) and ICC.
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat Immunohistochemistry (Frozen Section), 0.5-1ug/ml, Human Immunocytochemistry/Immunofluorescence, 2ug/ml, Human Flow Cytometry (Fixed), 1-3ug/1x10^6 cells, Human Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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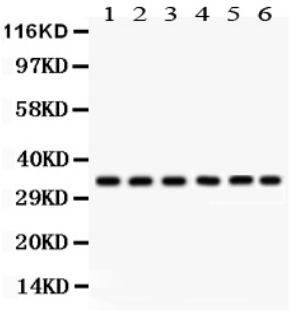
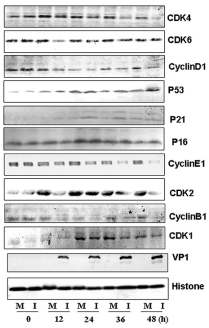
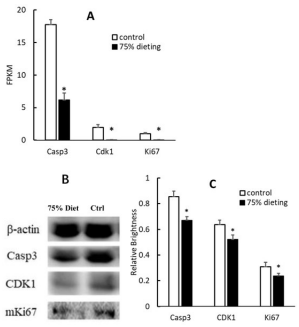
Anti-CDK1 Antibody Picoband® (PB9533) Images



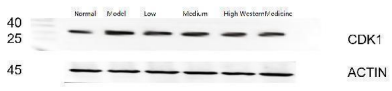
Western blot analysis of CDK1 using anti-CDK1 antibody (PB9533). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. Lane 1: Rat Thymus Tissue Lysate at 50ug, Lane 2: Rat Spleen Tissue Lysate at 50ug, Lane 3: MCF-7 Whole Cell Lysate at 40ug, Lane 4: HELA Whole Cell Lysate at 40ug, Lane 5: JURKAT Whole Cell Lysate at 40ug, Lane 6: NIH3T3 Whole Cell Lysate at 40ug. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CDK1 antigen affinity purified polyclonal antibody (Catalog # PB9533) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for CDK1 at approximately 34 kDa. The expected band size for CDK1 is at 34 kDa.



Western blot analysis of cell-cycle related proteins. RD cells, mock-infected (M) or infected with CVA6 (I) at an MOI of 1, were collected at 0, 12, 24, 36, and 48 h. The expression of CDK4, CDK6, cyclinD1, P53, P21, P16, cyclinE1, CDK2, cyclinB1, CDK1, and VP1 proteins was analyzed. Histone is the loading control. The results were representative of three independent experiments.Index in PubMed under a CC BY license. PMID: 30159255



Down-regulation of gene products associated with the cell cycle pathway in 75% dieting KDY rats' liver for 2 weeks (mean + STDEV.S; n = 3). (A) Casp3, Cdk1 and Ki67 in the liver was evaluated at mRNA level, and a high value of FPKM means a high expression; (B) Casp3, Cdk1 and Ki67 in the liver was evaluated by Western blot; C, Results of B were quantified by relative brightness. FPKM, Fragments Per Kilobase of exon model per Million mapped fragments. Control, control group, KDY rats were given free approach to food and water; 75% dieting, 75% dieting group, rats were given 75% food of control group at the same age in days and given free access to water. * P < 0.05 vs control group, Student's t -test, two-tailed. Download full-size image DOI:Index in PubMed under a CC BY license. PMID: 37701826



Western blot analysis of CDK1 using anti-CDK1 antibody (A01246). Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug

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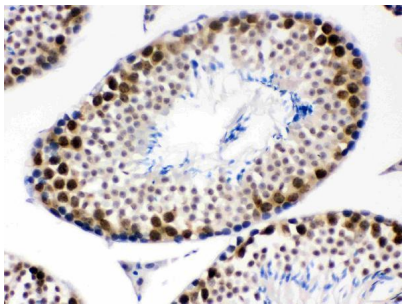
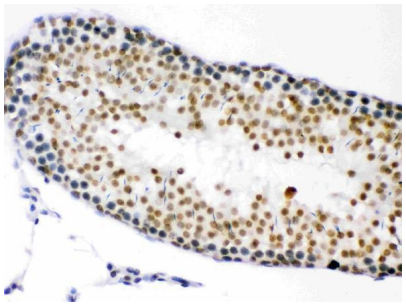
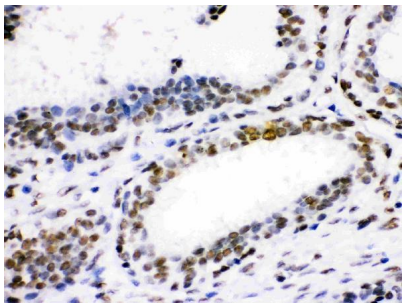
of sample under reducing conditions. Lane 1: Normal group-rat colon tissue, Lane 2: Model group-colon tissue from model rats, Lane 3: Low dose group-colon tissue from model rats, Lane 4: Medium dose group-colon tissue from model rats, Lane 5: High dose group-colon tissue from model rats, Lane 6: Western medicine treated-colon tissue from model rats. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CDK1 antigen affinity purified monoclonal antibody (A01246) at 1:1000 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a HRP Conjugated AffiniPure Goat Anti-rabbit IgG (H+L) at a dilution of 1:5000 for 1 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with ChemiDoc MP system. A specific band was detected for CDK1 at approximately 34 kDa. The expected band size for CDK1 is at 34 kDa.



IHC analysis of CDK1 using anti-CDK1 antibody (PB9533). CDK1 was detected in a paraffin-embedded section of mouse testis tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-CDK1 Antibody (PB9533) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



IHC analysis of CDK1 using anti-CDK1 antibody (PB9533). CDK1 was detected in a paraffin-embedded section of rat testis tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-CDK1 Antibody (PB9533) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



IHC analysis of CDK1 using anti-CDK1 antibody (PB9533). CDK1 was detected in a paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-CDK1 Antibody (PB9533) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

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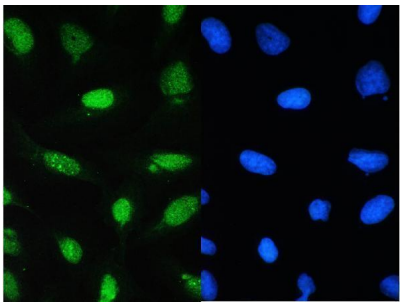
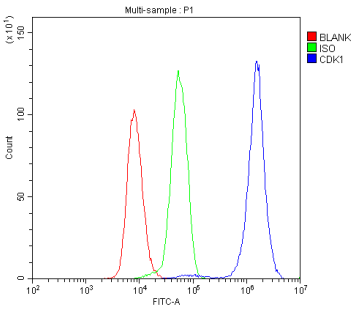


IF analysis of CDK1 using anti-CDK1 antibody (PB9533). CDK1 was detected in immunocytochemical section of U20S cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2ug/mL rabbit anti-CDK1 Antibody (PB9533) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Flow Cytometry analysis of U937 cells using anti-CDK1 antibody (PB9533). Overlay histogram showing U937 cells stained with PB9533 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CDK1 Antibody (PB9533,1ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

18 Publications Citing This Product

1. PubMed ID: 10.3892/or.2016.4742, A novel cell cycle blocker extracted from Stellera chamaejasme L. inhibits the proliferation of hepatocarcinoma cells

2. PubMed ID: 10.1080/13880209.2021.1931354, Extract of Ganoderma sinensis spores induces cell cycle arrest of hepatoma cell via endoplasmic reticulum stress

3. PubMed ID: 33779025, Blakemore D,Vilaplana-Lopera N,Almaghrabi R,Gonzalez E,Moya M,Ward C,Murphy G,Gambus A,Petermann E,Stewart GS,García P.MYBL2 and ATM suppress replication stress in pluripotent stem cells.EMBO Rep.2021 Mar 28:e51120.doi:10.15252/embr.202051120.Epub ahead of print.PMID:33779025.

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