

Anti-Cyclin-dependent kinase 4 Cdk4 Antibody

Catalog Number: PA1428-1

About Cdk4

Cyclin-dependent kinase-4 (CDK4) is a protein-serine kinase involved in the cell cycle. Human cell division is regulated primarily at the G1-to-S or the G2-to-M boundaries within the cell cycle. The complexes formed by CDK4 and the D-type cyclins are involved in the control of cell proliferation during the G1 phase. CDK4 is inhibited by p16, also known as cyclin-dependent kinase inhibitor-2. CDK4 is mapped to 12q14. CDK4 expression and activity are required for cytokine responsiveness in T cells.

Overview

Product Name	Anti-Cyclin-dependent kinase 4 Cdk4 Antibody
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Cyclin-dependent kinase 4 Cdk4 Antibody catalog # PA1428-1. Tested in Flow Cytometry, IF, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IF, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
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	P30285

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of mouse Cdk4, different from the related rat sequence by one amino acid, and from the related human sequence by four amino acids.
Predicted Reactive Species	Hamster
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 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	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat</p> <p>Immunocytochemistry/Immunofluorescence, 5 ug/ml, Human</p> <p>Flow Cytometry, 1-3 ug/1x10⁶ cells, Human</p>

Anti-Cyclin-dependent kinase 4 Cdk4 Antibody (PA1428-1) Images

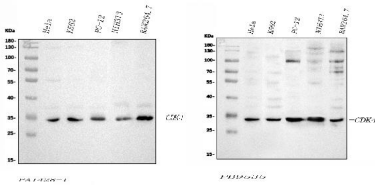


Figure 1. Western blot analysis of CDK4 using anti-CDK4 antibody (PA1428-1, Left) and anti-CDK4 antibody (PB9535, Right).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

Lane 1: human Hela whole cell lysates,
Lane 2: human K562 whole cell lysates,
Lane 3: rat PC-12 whole cell lysates,
Lane 4: mouse NIH/3T3 whole cell lysates,
Lane 5: mouse RAW264.7 whole cell lysates.

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-CDK4 antigen affinity purified polyclonal antibody (Catalog # PA1428-1) and rabbit anti-CDK4 antigen affinity purified polyclonal antibody (Catalog # PB9535) 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 CDK4 at approximately 34 kDa. The expected band size for CDK4 is at 34 kDa.

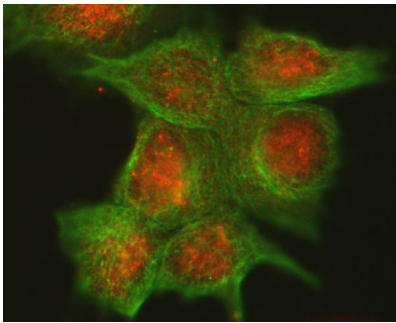


Figure 2. IF analysis of CDK4 using anti-CDK4 antibody (PA1428-1) and anti-Tubulin Alpha antibody (M03989-3). CDK4 was detected in immunocytochemical section of MCF-7 cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/mL rabbit anti-CDK4 Antibody (PA1428-1) and mouse anti-Tubulin Alpha antibody (M03989-3) overnight at 4°C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) and DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

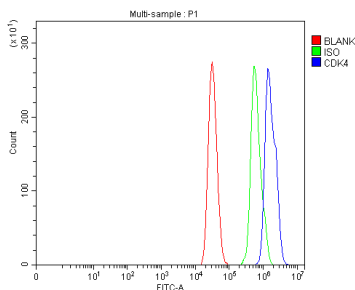


Figure 3. Flow Cytometry analysis of MCF-7 cells using anti-CDK4 antibody (PA1428-1).

Overlay histogram showing MCF-7 cells stained with PA1428-1 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CDK4 Antibody (PA1428-1, 1 ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x10⁶) used under the

same conditions. Unlabelled sample (Red line) was also used as a control.

11 Publications Citing This Product

1. PubMed ID: -, Lu Kong, Yongya Wu, Wangcheng Hu, Lin Liu, Yuying Xue, Geyu Liang, Mechanisms underlying reproductive toxicity induced by nickel nanoparticles identified by comprehensive gene expression analysis in GC-1 spg cells, Environmental Pollution, 2021, 116556, ISSN 0269-7
2. PubMed ID: 25734831, Ren J, Huang Q, Xu Y, Yang M, Yang J, Hu K. Anticancer Drugs. 2015 Jul;26(6):599-611. Doi: 10.1097/Cad.0000000000000224. Isoflavone Lupiwighteone Induces Cytotoxic, Apoptotic, And Antiangiogenic Activities In Du-145 Prostate Cancer Cells.
3. PubMed ID: 20025889, Han W, Liu Gn. Life Sci. 2010 Feb 13;86(7-8):234-43. Doi: 10.1016/J.Lfs.2009.12.005. Epub 2009 Dec 16. Egr-1 Decoy Odns Inhibit Vascular Smooth Muscle Cell Proliferation And Neointimal Hyperplasia Of Balloon-Injured Arteries In Rat.

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