BOSTER BIOLOGICAL TECHNOLOGY
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# Anti-CDK12 Antibody Picoband®

**Catalog Number:** A03495-1

## About CDK12

CDK12 cyclin-dependent kinase 12 is a protein kinase that in humans is encoded by the CDK12 gene. This enzyme is a member of cyclin-dependent kinase protein family. CDK12 forms protein complexes with cyclin K (CCNK). The CDK12-CCNK complex acts at the level of RNA polymerase II (RNAPII) to regulate expression of long complex genes, several of which have roles in DNA maintenance and repair

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## Overview

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| Product Name | Anti-CDK12 Antibody Picoband® |
| Reactive Species | Human |
| Description | Boster Bio Anti-CDK12 Antibody Picoband® catalog # A03495-1. Tested in ELISA, Flow Cytometry, IP, IF, IHC, ICC, WB applications. This antibody reacts with Human. 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 | ELISA, Flow Cytometry, IP, IF, IHC, ICC, WB |
| Clonality | Polyclonal |
| Formulation | Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4. |
| 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 | Q9NYV4 |

## Technical Details

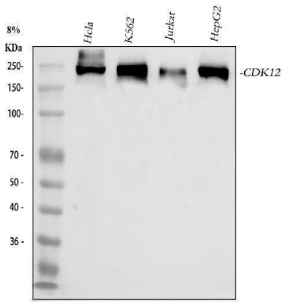
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| Immunogen | E.coli-derived human CDK12 recombinant protein (Position: Q1147-N1439). |
| Recommended Detection Systems | Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC. |

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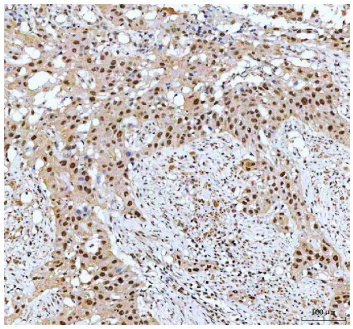
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| Cross Reactivity | No cross-reactivity with other proteins. |
| Isotype | Rabbit IgG |
| Form | Lyophilized |
| Concentration | Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml. |
| Purification | Immunogen affinity purified. |
| Suggested Dilutions | Western blot, 0.25-0.5ug/ml, Human<br>Immunohistochemistry(Paraffin-embedded Section), 2-5 ug/ml, Human<br>Immunocytochemistry/Immunofluorescence, 5ug/ml, Human<br>Immunoprecipitation, 0.5-2 ug/ml, Human<br>Flow Cytometry(Fixed), 1-3ug/1x$10^6$ cells, Human<br>ELISA, 0.1-0.5ug/ml, -<br><br>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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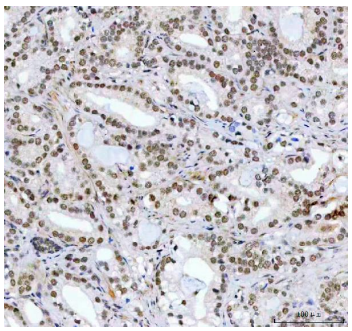
# Anti-CDK12 Antibody Picoband® (A03495-1) Images




Western blot analysis of CDK12 using anti-CDK12 antibody (A03495-1). 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: human Jurkat whole cell lysates, Lane 4: human HepG2 whole cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA 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-CDK12 antigen affinity purified polyclonal antibody (Catalog # A03495-1) 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 CDK12 at approximately 205 kDa. The expected band size for CDK12 is at 164 kDa.



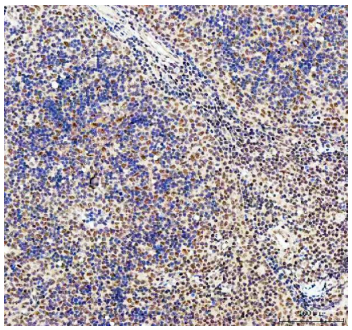
IHC analysis of CDK12 using anti-CDK12 antibody (A03495-1). CDK12 was detected in a paraffin-embedded section of human bladder urothelial carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CDK12 Antibody (A03495-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



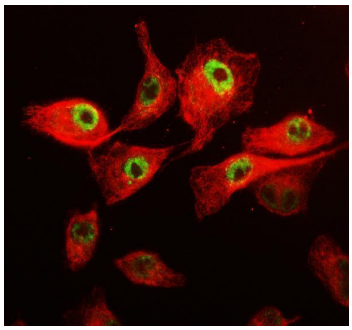
IHC analysis of CDK12 using anti-CDK12 antibody (A03495-1). CDK12 was detected in a paraffin-embedded section of human prostate cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CDK12 Antibody (A03495-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

IHC analysis of CDK12 using anti-CDK12 antibody (A03495-1). CDK12 was detected in a paraffin-embedded section of human spleen tissue. Heat mediated antigen

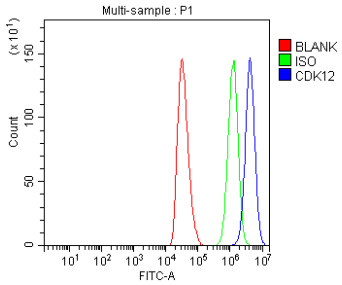
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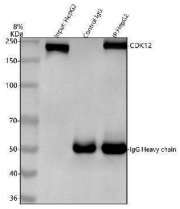
retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CDK12 Antibody (A03495-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IF analysis of CDK12 using anti-CDK12 antibody (A03495-1) and anti-Beta Tubulin antibody (M01857-3). CDK12 was detected in immunocytochemical section of A549 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-CDK12 Antibody (A03495-1) and mouse anti-Beta Tubulin antibody (M01857-3) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) and DyLight®550 Conjugated Goat Anti-Mouse IgG (BA1133) 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.




Flow Cytometry analysis of HepG2 cells using anti-CDK12 antibody (A03495-1). Overlay histogram showing HepG2 cells stained with A03495-1 (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-CDK12 Antibody (A03495-1, 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.




Immunoprecipitating CDK12 in HepG2 whole cell lysate. Western blot analysis of CDK12 using anti-CDK12 antibody (A03495-1); Lane 1: HepG2 whole cell lysates (30ug); Lane 2: Rabbit control IgG instead of anti-CDK12 antibody in HepG2 whole cell lysate; Lane 3: anti-CDK12 antibody (2ug) + HepG2 whole cell lysate (500ug). After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-CDK12 antigen affinity purified polyclonal antibody (A03495-1) at a dilution of 0.5 ug/mL and probed with a goat anti-rabbit IgG-HRP secondary antibody (Catalog # BA1054). The signal is developed using ECL Plus Western Blotting Substrate (Catalog # AR1196-200). A specific band was detected for CDK12 at approximately 200 kDa. The expected band size for CDK12 is at 164 kDa.

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