

Rabbit anti-Human CDK12 Polyclonal Antibody | anti-CDK12 antibody

Anti-CDK12 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA125695	Rabbit	Human	ELISA, Flow Cytometry, Functional Assay, Immunofluorescence, Immunocytochemistry, Western Blot

PRODUCT SYNONYMS

CDK12; Polyclonal Antibody; Anti-CDK12 Antibody; Cdk12; Crk7; Crkrs; Kiaa0904; Cyclin-dependent kinase 12; Cdc2-related kinase; arginine/serine-rich; CrkRS; Cell division cycle 2-related protein kinase 7; CDC2-related protein kinase 7; Cell division protein kinase 12; cyclin dependent kinase 12; anti-CDK12 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Isotype	Rabbit IgG
Purity/Purification	Immunogen affinity purified.
Form/Format	Lyophilized. Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.005mg NaN3.
Applicable Applications for anti-CDK12 antibody	ELISA (Direct ELISA), FCM/FACS (Flow Cytometry), IF (Immunofluorescence), ICC (Immunocytochemistry), WB (Western Blot)
Immunogen	E Coli-derived human CDK12 recombinant protein (Position: Q1147-N1439).
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.
Recommended Detection Systems	Recommended Detection Systems
Preparation and Storage	Store at -20 degree C for one year. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for a longer time. Avoid repeated freezing and thawing.

IMAGES



WB (Western Blot)

Figure 1. Western blot analysis of CDK12 using anti-CDK12 antibody (AAA125695). 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 50ug of sample under reducing conditions. Lane 1: human HEK293 whole cell lysates Lane 2: human HELA whole cell lysates Lane 3: human Jurkat whole cell lysates Lane 4: human K562 whole cell lysates Lane 5: human HL-60 whole cell lysates Lane 6: human CACO-2 whole cell lysates Lane 7: human A549 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 # AAA125695) at 0.5 µg/mL overnight at 4 degree 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 with Tanon 5200 system. A specific band was detected for CDK12 at approximately 205KD. The expected band size for CDK12 is at 205KD.



FCM/FACS (Flow Cytometry)

Figure 3. Flow Cytometry analysis of HL-60 cells using anti-CDK12 antibody (AAA125695). Overlay histogram showing HL-60 cells stained with AAA125695 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CDK12 Antibody (AAA125695, 1 µg/1x10⁶ cells) for 30 min at 20 degree C. DyLight[®]488 conjugated goat anti-rabbit IgG (5-10 µg/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1 µg/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



IF (Immunofluorescence)

Figure 2. IF analysis of CDK12 using anti-CDK12 antibody (AAA125695). CDK12 was detected in immunocytochemical section of SiHa cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5µg/mL rabbit anti-CDK12 Antibody (AAA125695) overnight at 4 degree C. DyLight®488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37 degree C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

ADDITIONAL INFORMATION

Related Product Information for anti-CDK12 antibody	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.
References	1. Blazek, D., Kohoutek, J., Bartholomeeusen, K., Johansen, E., Hulinkova, P., Luo, Z., Cimerancic, P., Ule, J., Peterlin, B. M. The cyclin K/Cdk12 complex maintains genomic stability via regulation of expression of DNA damage response genes. <i>Genes Dev.</i> 25: 2158-2172, 2011. 2. Cheng, S.-W. G., Kuzyk, M. A., Moradian, A., Ichu, T. -A., Chang, V. C. -D., Tien, J. F., Vollett, S. E., Griffith, M., Marra, M. A., Morin, G. B. Interaction of cyclin-dependent kinase 12/CrkRS with cyclin K1 is required for the phosphorylation of the C-terminal domain of RNA polymerase II. <i>Molec. Cell. Biol.</i> 32: 4691-4704, 2012. 3. Dubbury, S. J., Boutz, P. L., Sharp, P. A. CDK12 regulates DNA repair genes by suppressing intronic polyadenylation. <i>Nature</i> 564: 141-145, 2018.

NCBI AND UNIPROT INFORMATION

NCBI GI #	157817023
NCBI GeneID	51755
NCBI Accession #	NP_057591.2
NCBI GenBank Nucleotide #	NM_016507.3
UniProt Accession #	Q9NYV4; O94978; A7E2B2; B4DYX4; B9EIQ6
NCBI Official Full Name	cyclin-dependent kinase 12 isoform 1
NCBI Official Synonym Full Names	cyclin-dependent kinase 12
NCBI Official Symbol	CDK12
NCBI Official Synonym Symbols	CRK7; CRKR; CRKRS
NCBI Protein Information	cyclin-dependent kinase 12; CDC2-related protein kinase 7; cell division protein kinase 12; Cdc2-related kinase, arginine/serine-rich; cell division cycle 2-related protein kinase 7
UniProt Protein Name	Cyclin-dependent kinase 12
UniProt Gene Name	CDK12
UniProt Synonym Gene Names	CRK7; CRKRS; KIAA0904; CrkRS; CDC2-related protein kinase 7; hCDK12
UniProt Entry Name	CDK12_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.