

Rabbit CDK4 Polyclonal Antibody | anti-CDK4 antibody

Phospho-CDK4 (Thr172) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA31380	Rabbit	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Zebrafish (85%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%), Xenopus (92%)	Western Blot, Immunohistochemistry, ELISA

PRODUCT SYNONYMS

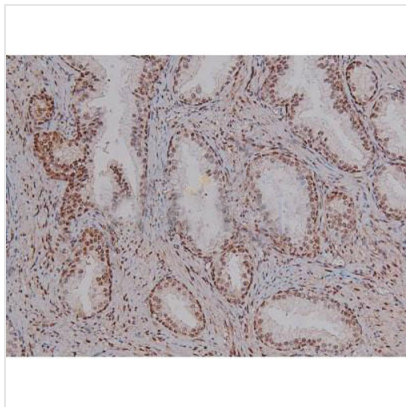
CDK4; Polyclonal Antibody; Phospho-CDK4 (Thr172) Antibody; Cdk 4; cdk4; CDK4 protein; CDK4_HUMAN; Cell division kinase 4; Cell division protein kinase 4; CMM 3; CMM3; Crk3; Cyclin dependent kinase 4; Cyclin-dependent kinase 4; Melanoma cutaneous malignant 3; MGC14458; p34 cdk4; PSK J3; PSK-J3; anti-CDK4 antibody

PRODUCT SPECIFICATIONS

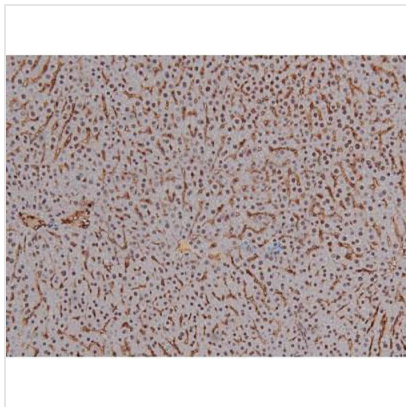
Host	Rabbit
Reactivity	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Zebrafish (85%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%), Xenopus (92%)
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-CDK4 (Thr172) Antibody detects endogenous levels of CDK4 only when phosphorylated at Thr172.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-CDK4 antibody	WB (Western Blot), IHC (Immunohistochemistry), ELISA (Peptide ELISA)
Application Notes	WB: 1:1000-3000 IHC: 1:50-1:200 Peptide ELISA: 1:20,000-1:40,000
Immunogen	A synthesized peptide derived from human CDK4 around the phosphorylation site of Thr172.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	Phosphorylation at Thr-172 is required for enzymatic activity. Phosphorylated, in vitro, at this site by CCNH-CDK7, but, in vivo, appears to be phosphorylated by a proline-directed kinase. In the cyclin D-CDK4-CDKN1B complex, this phosphorylation and consequent CDK4 enzyme activity, is dependent on the tyrosine phosphorylation state of CDKN1B. Thus, in proliferating cells, CDK4 within the complex is phosphorylated on Thr-172 in the T-loop. In resting cells, phosphorylation on Thr-172 is prevented by the non-tyrosine-phosphorylated form of CDKN1B.

Subunit Structure	Component of the D-CDK4 complex, composed of CDK4 and some D-type G1 cyclin (CCND1, CCND2 or CCND3). Interacts directly in the complex with CCND1, CCND2 or CCND3. Interacts with SEI1 and ZNF655. Forms a ternary complex, cyclin D-CDK4-CDKN1B, involved in modulating CDK4 enzymatic activity. Interacts directly with CDKN1B (phosphorylated on 'Tyr-88' and 'Tyr-89'); the interaction allows assembly of the cyclin D-CDK4 complex, Thr-172 phosphorylation, nuclear translocation and enhances the cyclin D-CDK4 complex activity. CDK4 activity is either inhibited or enhanced depending on stoichiometry of complex. The non-tyrosine-phosphorylated form of CDKN1B prevents T-loop phosphorylation of CDK4 producing inactive CDK4. Interacts (unphosphorylated form) with CDK2. Also forms ternary complexes with CDKN1A or CDKN2A. Interacts directly with CDKN1A (via its N-terminal); the interaction promotes the assembly of the cyclin D-CDK4 complex, its nuclear translocation and promotes the cyclin D-dependent enzyme activity of CDK4. Interacts with CCND1; the interaction is prevented with the binding of CCND1 to INSM1 during cell cycle progression. Probably forms a complex composed of chaperones HSP90 and HSP70, co-chaperones CDC37, PPP5C, TSC1 and client protein TSC2, CDK4, AKT, RAF1 and NR3C1; this complex does not contain co-chaperones STIP1/HOP and PTGES3/p23. Interacts with CEBPA (when phosphorylated). Interacts with FNIP1 and FNIP2.
Similarity	Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. CDC2/CDKX subfamily.
Subcellular Location	Cytoplasm. Nucleus. Nucleus membrane. Note: Cytoplasmic when non-complexed. Forms a cyclin D-CDK4 complex in the cytoplasm as cells progress through G (1) phase. The complex accumulates on the nuclear membrane and enters the nucleus on transition from G (1) to S phase. Also present in nucleoli and heterochromatin lumps. Colocalizes with RB1 after release into the nucleus.
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

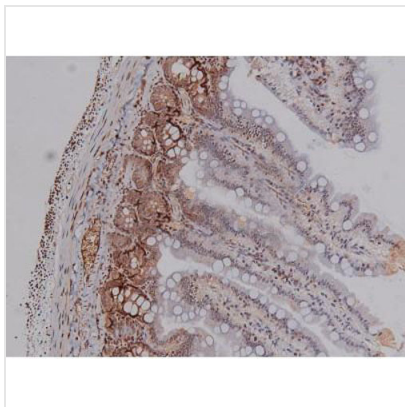
IMAGES



IHC (Immunohistochemistry)
At 1/200 staining Human prostate cancer tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary antibody.

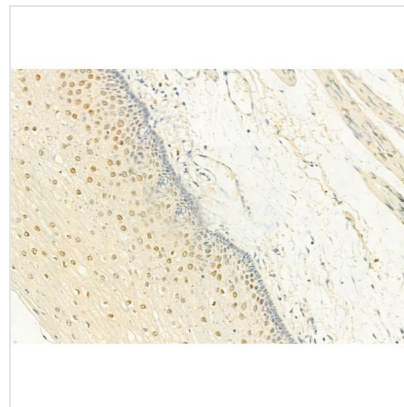


IHC (Immunohistochemistry)
At 1/200 staining Mouse liver tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary antibody.



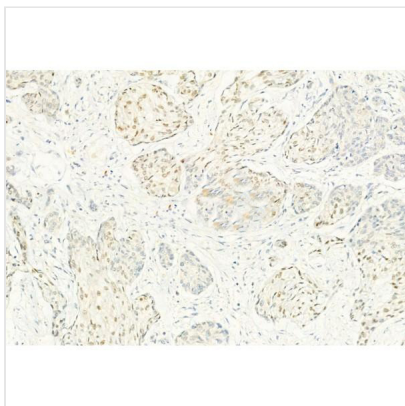
IHC (Immunohistochemistry)

At 1/200 staining Rat intestinal tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary antibody.



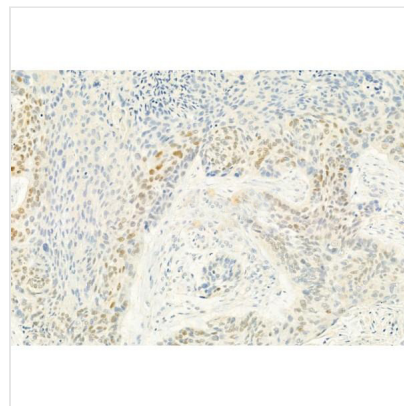
IHC (Immunohistochemistry)

At 1/100 staining Human normal tissues adjacent to esophageal cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)

At 1/100 staining Human esophageal cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)

At 1/100 staining Human lung cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-CDK4 antibody

Ser/Thr-kinase component of cyclin D-CDK4 (DC) complexes that phosphorylate and inhibit members of the retinoblastoma (RB) protein family including RB1 and regulate the cell-cycle during G (1)/S transition. Phosphorylation of RB1 allows dissociation of the transcription factor E2F from the RB/E2F complexes and the subsequent transcription of E2F target genes which are responsible for the progression through the G (1) phase. Hypophosphorylates RB1 in early G (1) phase. Cyclin D-CDK4 complexes are major integrators of various mitogenic and antimitogenic signals. Also phosphorylates SMAD3 in a cell-cycle-dependent manner and represses its transcriptional activity. Component of the ternary complex, cyclin D/CDK4/CDKN1B, required for nuclear translocation and activity of the cyclin D-CDK4 complex.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4502735
NCBI GeneID	1019
NCBI Accession #	NP_000066.1
NCBI GenBank Nucleotide #	NM_000075.3
UniProt Accession #	P11802; O00576; Q6FG61
Molecular Weight	34kDa

NCBI Official Full Name	cyclin-dependent kinase 4
NCBI Official Synonym Full Names	cyclin-dependent kinase 4
NCBI Official Symbol	CDK4
NCBI Official Synonym Symbols	CMM3; PSK-J3
NCBI Protein Information	cyclin-dependent kinase 4; cell division protein kinase 4
UniProt Protein Name	Cyclin-dependent kinase 4
UniProt Gene Name	CDK4
UniProt Entry Name	CDK4_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.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/cdk4-antibody-western-blot-immunohistochemistry-peptide-elisa-elisa/31380>