

Rabbit CDK7 Polyclonal Antibody | anti-CDK7 antibody

CDK7 Antibody

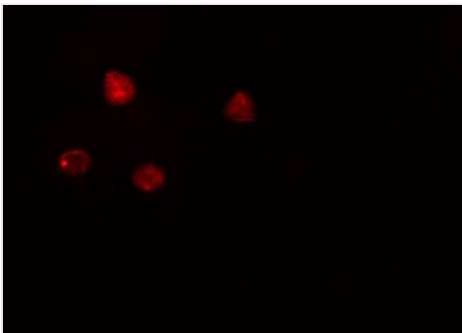
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326325	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

CDK7; Polyclonal Antibody; CDK7 Antibody; 39 kDa protein kinase; CAK; CAK1; Cdk activating kinase; CDK-activating kinase 1; CDK-activating kinase; cdk7; CDK7_HUMAN; CDKN7; Cell division protein kinase 7; Cyclin dependent kinase 7; cyclin-dependent kinase 7 (MO15 homolog; Xenopus laevis; cdk-activating kinase); Cyclin-dependent kinase 7; HCAK; Homolog of Xenopus MO15 Cdk activating kinase; Kinase subunit of CAK; MO15; Xenopus; homolog of; P39 Mo15; p39MO15; Serine threonine kinase Stk1; Serine/threonine protein kinase 1; Serine/threonine protein kinase MO15; STK1; TFIIF basal transcription factor complex kinase subunit; anti-CDK7 antibody

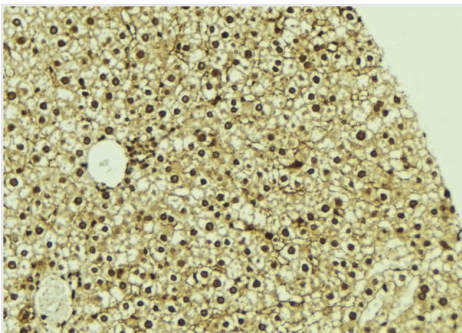
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	CDK7 antibody detects endogenous levels of total CDK7
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	305
Applicable Applications for anti-CDK7 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human CDK7
Subcellular Location	Nucleus.
Tissue Specificity	Ubiquitous.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



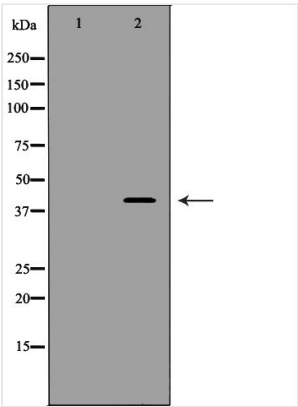
IF (Immunofluorescence)

AAA326325 staining HeLa cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



IHC (Immunohistochemistry)

AAA326325 at 1/100 staining Mouse liver tissue 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 antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



WB (Western Blot)

Western blot analysis of extracts of HeLa, using CDK7 antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-CDK7 antibody	Description: CDK-activating kinase (CAK) is a complex of CDK7 and cyclin H. The complex is involved in cell cycle regulation by phosphorylating an activating residue in the T-loop domain of cdk's (1). Regulation of CAK activity is mediated by T-loop phosphorylation and by association with MAT1, both of which enhance its kinase activity toward the CTD of RNA polymerase II (2, 3) and other substrates such as p53 (4). CAK is an essential component of the transcription complex TFIIF and may interact directly with TFIIF helicases (5). Function: Serine/threonine kinase involved in cell cycle control and in RNA polymerase II-mediated RNA transcription. Cyclin-dependent kinases (CDKs) are activated by the binding to a cyclin and mediate the progression through the cell cycle. Each different complex controls a specific transition between 2 subsequent phases in the cell cycle. Required for both activation and complex formation of CDK1/cyclin-B during G2-M transition, and for activation of CDK2/cyclins during G1-S transition (but not complex formation). CDK7 is the catalytic subunit of the CDK-activating kinase (CAK) complex. Phosphorylates SPT5/SUPT5H, SF1/NR5A1, POLR2A, p53/TP53, CDK1, CDK2, CDK4, CDK6 and CDK11B/CDK11. CAK activates the cyclin-associated kinases CDK1, CDK2, CDK4 and CDK6 by threonine phosphorylation, thus regulating cell cycle progression. CAK complexed to the core-TFIIF basal transcription factor activates RNA polymerase II by serine phosphorylation of the repetitive C-terminal domain (CTD) of its large subunit (POLR2A), allowing its escape from the promoter and elongation of the transcripts. Phosphorylation of POLR2A in complex with DNA promotes transcription initiation by triggering dissociation from DNA. Its expression and activity are constant throughout the cell cycle. Upon DNA damage, triggers p53/TP53 activation by phosphorylation, but is inactivated in turn by p53/TP53; this feedback loop may lead to an arrest of the cell cycle and of the transcription, helping in cell recovery, or to apoptosis. Required for DNA-bound peptides-mediated transcription and cellular growth inhibition. Subunit Structure: Associates primarily with cyclin-H (CCNH) and MAT1 to form the CAK complex. CAK can further associate with the core-TFIIF to form the TFIIF basal transcription factor; this complex is sensitive to UV light. The CAK complex binds to p53/TP53 in response to DNA damage. Interacts with CDK2, SF1/NR5A1, PUF60 and PRKCI. Post-translational Modifications: Phosphorylation of Ser-164 during mitosis inactivates the enzyme. Phosphorylation of Thr-170 is required for activity. Phosphorylated at Ser-164 and Thr-170 by CDK2. Similarity: Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. CDC2/CDKX subfamily.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	1022435305
NCBI GeneID	1022
NCBI Accession #	NP_001310998.1
NCBI GenBank Nucleotide #	NM_001324069.1
UniProt Accession #	P50613 ; Q9BS60 ; Q9UE19
Molecular Weight	Observed: 39 kDa Predicted: 40 kDa
NCBI Official Full Name	cyclin-dependent kinase 7 isoform 2
NCBI Official Synonym Full Names	cyclin dependent kinase 7
NCBI Official Symbol	CDK7
NCBI Official Synonym Symbols	CAK; CAK1; HCAK; MO15; STK1; CDKN7; p39MO15
NCBI Protein Information	cyclin-dependent kinase 7
UniProt Protein Name	Cyclin-dependent kinase 7
UniProt Gene Name	CDK7
UniProt Synonym Gene Names	CAK; CAK1; CDKN7; MO15; STK1; p39 Mo15

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.