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Anti-Cdk7 Antibody

Catalog # ABO11433

Product Information

Application	WB
Primary Accession	P50613
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Cyclin-dependent kinase 7(CDK7) detection. Tested with WB in Human;Rat;Mouse.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	1022
Other Names	Cyclin-dependent kinase 7, 2.7.11.22, 2.7.11.23, 39 kDa protein kinase, p39 Mo15, CDK-activating kinase 1, Cell division protein kinase 7, Serine/threonine-protein kinase 1, TFIIH basal transcription factor complex kinase subunit, CDK7, CAK, CAK1, CDKN7, MO15, STK1
Calculated MW	39038
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Rat, Mouse
Subcellular Localization	Nucleus. Cytoplasm. Cytoplasm, perinuclear region. Colocalizes with PRKCI in the cytoplasm and nucleus. Translocates from the nucleus to cytoplasm and perinuclear region in response to DNA-bound peptides.
Tissue Specificity	Ubiquitous.
Source	Eukaryota
Protein Name	Cyclin-dependent kinase 7
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Cdk7(329-346aa RKRTEALEQGGLPKKLIF), different from the related rat and mouse sequences by two amino acids.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. CDC2/CDKX subfamily.

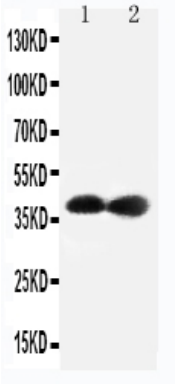
Protein Information

Name	CDK7
Synonyms	CAK, CAK1, CDKN7, MO15, STK1
Function	Serine/threonine kinase involved in cell cycle control and in RNA polymerase II-mediated RNA transcription (PubMed:9852112, PubMed:19136461, PubMed:26257281, PubMed:28768201). As a cyclin- dependent kinase, CDK7 is activated by the binding to cyclin-H/CCNH and the CDK-activating kinase assembly factor MAT1 (PubMed:41100585). Catalytic subunit of the CDK-activating kinase (CAK) complex, a master regulator of CDK activity by catalyzing the activating threonine phosphorylation of CDKs (PubMed:41100585). CAK activates major mediators of cell cycle control, including CDK1, CDK2, CDK4 and CDK6, and plays a key role in regulating cell cycle progression (PubMed:41100585). CAK complexed to the core-TFIIH basal transcription factor activates RNA polymerase II by serine phosphorylation of the CTD of POLR2A, allowing its escape from the promoter and elongation of the transcripts (PubMed:9852112). Initiates transcription by RNA polymerase II by mediating phosphorylation of POLR2A at 'Ser-5' of the repetitive C-terminal domain (CTD) when POLR2A is in complex with DNA, promoting dissociation from DNA and initiation (PubMed:19136461, PubMed:26257281, PubMed:28768201). Phosphorylates SPT5/SUPT5H, SF1/NR5A1, POLR2A, p53/TP53, CDK1, CDK2, CDK4, CDK6 and CDK11B/CDK11 (PubMed:9372954, PubMed:9840937, PubMed:19136461, PubMed:26257281, PubMed:28768201, PubMed:41100585, PubMed:41100585). 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.
Cellular Location	Nucleus. Cytoplasm. Cytoplasm, perinuclear region. Note=Colocalizes with PRKCI in the cytoplasm and nucleus (PubMed:15695176). Translocates from the nucleus to cytoplasm and perinuclear region in response to DNA-bound peptides (PubMed:19071173).
Tissue Location	Ubiquitous.

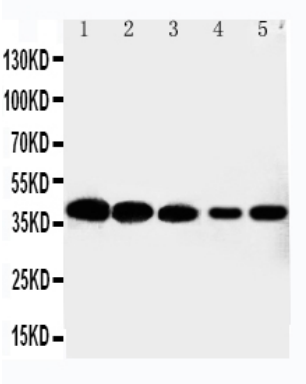
Background

Cyclin-dependent kinase 7, also known as cell division protein kinase 7, is an enzyme that in humans is encoded by the CDK7 gene. The protein encoded by this gene is a member of the cyclin-dependent protein kinase(CDK) family. The gene was assigned to human chromosome 5q13.2. Serine/threonine kinase involved in cell cycle control and in RNA polymerase II-mediated RNA transcription. CDK7 is the catalytic subunit of the CDK-activating kinase(CAK) complex. It is required for DNA-bound peptides-mediated transcription and cellular growth inhibition.

Images



Anti-Cdk7 antibody, ABO11433, Western blottingLane 1: Rat Testis Tissue LysateLane 2: Rat Ovary Tissue Lysate



Anti-Cdk7 antibody, ABO11433, Western blottingLane 1: HELA Cell LysateLane 2: MCF-7 Cell LysateLane 3: A549 Cell LysateLane 4: COLO320 Cell LysateLane 5: JURKAT Cell Lysate

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.