

Anti-CDK7 Rabbit Monoclonal Antibody
Catalog # ABO13451**Specification**

Anti-CDK7 Rabbit Monoclonal Antibody - Product Information

Application	WB
Primary Accession	P50613
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid

Description

Anti-CDK7 Rabbit Monoclonal Antibody . Tested in WB application. This antibody reacts with Human.

Anti-CDK7 Rabbit Monoclonal Antibody - 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 MW KDa

Application Details

WB 1:1000-1:2000

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.

Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen

A synthesized peptide derived from human CDK7

Purification

Affinity-chromatography

Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Anti-CDK7 Rabbit Monoclonal Antibody - 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](http://www.uniprot.org/citations/9852112)), PubMed: [19136461](http://www.uniprot.org/citations/19136461), PubMed: [26257281](http://www.uniprot.org/citations/26257281), PubMed: [28768201](http://www.uniprot.org/citations/28768201)). 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 (PubMed: [9372954](http://www.uniprot.org/citations/9372954), PubMed: [9840937](http://www.uniprot.org/citations/9840937), PubMed: [19136461](http://www.uniprot.org/citations/19136461), PubMed: [26257281](http://www.uniprot.org/citations/26257281), PubMed: [28768201](http://www.uniprot.org/citations/28768201)). 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](http://www.uniprot.org/citations/19136461), PubMed: [26257281](http://www.uniprot.org/citations/26257281), PubMed: [28768201](http://www.uniprot.org/citations/28768201)). 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 CTD of POLR2A, allowing its escape from the promoter and elongation of the transcripts (PubMed: [9852112](http://www.uniprot.org/citations/9852112)). 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

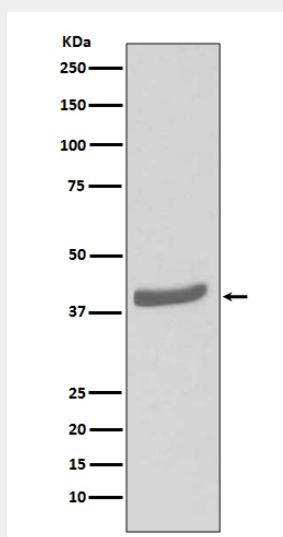
Ubiquitous.

Anti-CDK7 Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-CDK7 Rabbit Monoclonal Antibody - Images



Western blot analysis of CDK7 expression in MCF-7 cell lysate.