

### **Anti-CDK7 Rabbit Monoclonal Antibody**

**Catalog # ABO13451** 

### **Specification**

# **Anti-CDK7 Rabbit Monoclonal Antibody - Product Information**

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

**Description** 

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

### **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:<a href="http://www.uniprot.org/citations/9852112" target=" blank">9852112</a>, PubMed:<a href="http://www.uniprot.org/citations/19136461" target=" blank">19136461</a>, PubMed:<a href="http://www.uniprot.org/citations/26257281" target=" blank">26257281</a>, PubMed:<a href="http://www.uniprot.org/citations/28768201" target="blank">28768201</a>). 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:<a href="http://www.uniprot.org/citations/9372954" target=" blank">9372954</a>, PubMed:<a href="http://www.uniprot.org/citations/9840937" target="blank">9840937</a>, PubMed:<a href="http://www.uniprot.org/citations/19136461" target="\_blank">19136461</a>, PubMed:<a href="http://www.uniprot.org/citations/26257281" target="\_blank">26257281</a>, PubMed:<a href="http://www.uniprot.org/citations/28768201" target="\_blank">28768201</a>). 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: <a href="http://www.uniprot.org/citations/19136461" target=" blank">19136461</a>, PubMed:<a href="http://www.uniprot.org/citations/26257281" target="blank">26257281</a>, PubMed:<a href="http://www.uniprot.org/citations/28768201" target="blank">28768201</a>). CAK activates the cyclin-associated kinases CDK1, CDK2, CDK4 and CDK6 by threonine phosphorylation, thus regulating cell cycle progression. 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:<a href="http://www.uniprot.org/citations/9852112" target=" blank">9852112</a>). 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**



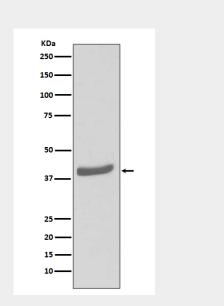


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Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

# **Anti-CDK7 Rabbit Monoclonal Antibody - Images**



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