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# Anti-CDK7 Rabbit Monoclonal Antibody

Catalog # ABO13451

## Product Information

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| **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. |

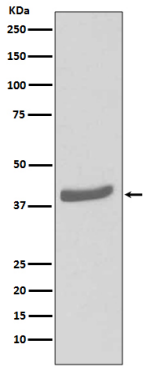
## Additional Information

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| **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** | 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. |
| **Source** | Eukaryota |
| **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. |
| **Clone Names** | Clone: GHG-3 |
| **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. |

## Protein Information

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| **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. |

## Images




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

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