

**Mouse Cdk7 Antibody (N-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP14782a****Specification**

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**Mouse Cdk7 Antibody (N-term) Blocking Peptide - Product Information**Primary Accession [Q03147](#)**Mouse Cdk7 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 12572**Other Names**

Cyclin-dependent kinase 7, 39 kDa protein kinase, P39 Mo15, CDK-activating kinase, CR4 protein kinase, CRK4, Cell division protein kinase 7, Protein-tyrosine kinase MPK-7, TFIIH basal transcription factor complex kinase subunit, Cdk7, Cak, Cdkn7, Crk4, Mo15, Mpk-7

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**Mouse Cdk7 Antibody (N-term) Blocking Peptide - Protein Information****Name** Cdk7**Synonyms** Cak, Cdkn7, Crk4, Mo15, Mpk-7**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-TFIIH 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.

#### **Cellular Location**

Nucleus {ECO:0000250|UniProtKB:P50613}. Cytoplasm {ECO:0000250|UniProtKB:P50613}. Cytoplasm, perinuclear region {ECO:0000250|UniProtKB:P50613}. Note=Colocalizes with PRKCI in the cytoplasm and nucleus. Translocates from the nucleus to cytoplasm and perinuclear region in response to DNA-bound peptides (By similarity) {ECO:0000250|UniProtKB:P50613}

#### **Mouse Cdk7 Antibody (N-term) Blocking Peptide - Protocols**

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

- [Blocking Peptides](#)

#### **Mouse Cdk7 Antibody (N-term) Blocking Peptide - Images**

#### **Mouse Cdk7 Antibody (N-term) Blocking Peptide - Background**

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 two subsequent phases in the cell cycle. CDK7 is the catalytic subunit of the CDK-activating kinase (CAK) complex, a serine-threonine kinase. CAK activates the cyclin-associated kinases CDK1, CDK2, CDK4 and CDK6 by threonine phosphorylation. CAK complexed to the core-TFIIF basal transcription factor activates RNA polymerase II by serine phosphorylation of the repetitive C-terminus domain (CTD) of its large subunit (POLR2A), allowing its escape from the promoter and elongation of the transcripts. Involved in cell cycle control and in RNA transcription by RNA polymerase II. Its expression and activity are constant throughout the cell cycle.

#### **Mouse Cdk7 Antibody (N-term) Blocking Peptide - References**

Patel, S.A., et al. J. Biol. Chem. 285(20):15587-15598(2010) Yang, W.H., et al. Mol. Cell. Biol. 29(3):613-625(2009) Helenius, K., et al. Mol. Cell. Biol. 29(2):315-323(2009) Oven, I., et al. Mol. Cell. Biol. 27(24):8815-8823(2007) Sano, M., et al. Cell Metab. 5(2):129-142(2007)