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Goat Anti-CDK7 (aa47-58) Antibody

Peptide-affinity purified goat antibody

Catalog # AF4132a

Specification

Goat Anti-CDK7 (aa47-58) Antibody - Product Information

Application	**WB**
Primary Accession	P50613
Other Accession	NP_001790.1, 1022, 12572 (mouse), 171150 (rat)
Reactivity	**Human, Mouse, Rat, Dog, Cow**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5 mg/ml**
Isotype	**IgG**
Calculated MW	**39038**

Goat Anti-CDK7 (aa47-58) 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

Format
0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

Immunogen
Peptide with sequence C-HRSEAKDGINRT, from the internal region of the protein sequence according to NP_001790.1.Please note the peptide is available for sale.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-CDK7 (aa47-58) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-CDK7 (aa47-58) 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. 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 (PubMed:9852112). 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. 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.

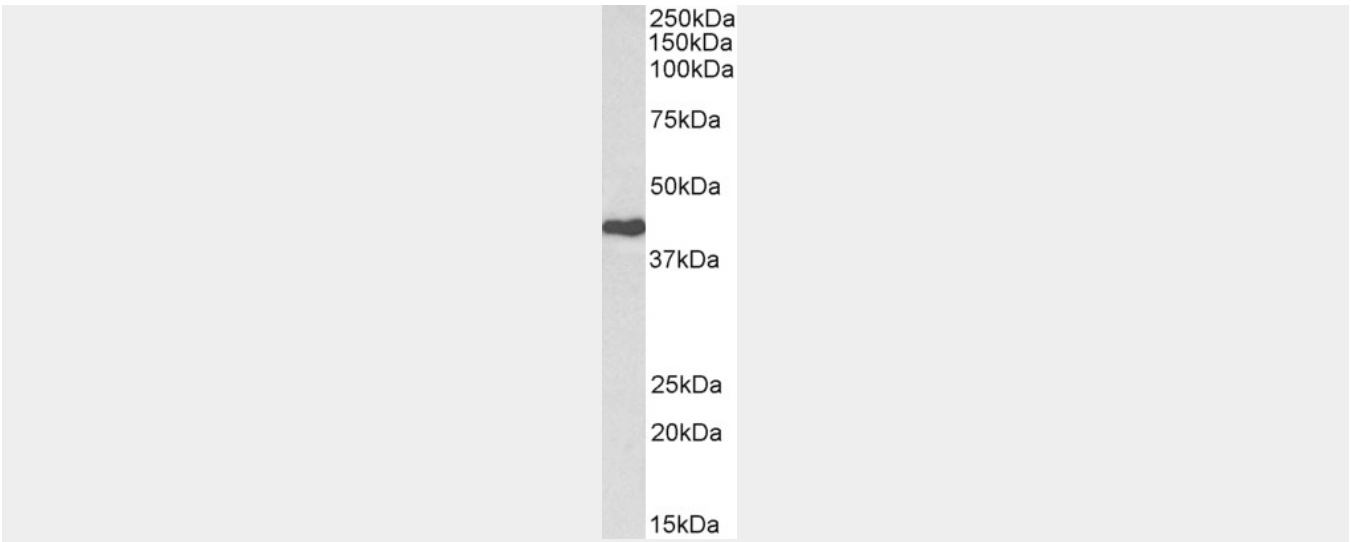
Goat Anti-CDK7 (aa47-58) Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-CDK7 (aa47-58) Antibody - Images

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AF4132a (0.3 µg/ml) staining of Jurkat lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-CDK7 (aa47-58) Antibody - References

Inhibition of transcription by the trimeric cyclin-dependent kinase 7 complex. Bochar DA, Pan ZQ, Knights R, Fisher RP, Shilatifard A, Shiekhattar R. The Journal of biological chemistry 1999 May 274 (19): 13162-6. PMID: 10224071