

Rabbit Anti-CDK7/AF350 Conjugated antibody

SL0569R-AF350

Product Name	Anti-CDK7/AF350
Chinese Name	AF350 标记的周期素依赖性激酶 7 抗体
Alias	Cyclin H; MAT1; Cyclin Dependent Kinase 7; CAK1; MO15; CDKN7; serine/threonine kinase; STK1; serine/threonine protein kinase 1; MO15 homolog,Xenopus laevis, cdk-activating kinase; Cdk-activating kinase; serine/threonine protein kinase MO15; homolog of Xenopus MO15 Cdk-activating kinase; kinase subunit of CAK; 39 KDa protein kinase; CR4 protein kinase; CRK4.
Research Area	Tumour Cell biology Chromatin and nuclear signals Signal transduction Cyclin Kinases and Phosphatases
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human,Mouse,Rat(predicted:Cow) IF=1:100-500,ICC/IF=1:100-500
Applications	not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight	40kDa
Form	Lyophilized or Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human CDK7 C-terminus
Lsotype	IgG
Purification	affinity purified by Protein A
Storage Buffer	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Product Detail	background:

The protein encoded by this gene is a member of the cyclin-dependent protein kinase (CDK) family. CDK family members are highly similar to the gene products of *Saccharomyces cerevisiae cdc28*, and *Schizosaccharomyces pombe cdc2*, and are known to be important regulators of cell cycle progression. This protein forms a trimeric complex with cyclin H and MAT1, which functions as a Cdk-activating kinase (CAK). It is an essential component of the transcription factor TFIID, that is involved in transcription initiation and DNA repair. This protein is thought to serve as a direct link between the regulation of transcription and the cell cycle. [provided by RefSeq, Jul 2008]

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-TFIID 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. 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.

Subunit:

Associates primarily with cyclin-H (CCNH) and MAT1 to form the CAK complex. CAK can further associate with the core-TFIID to form the TFIID basal transcription factor; this complex is sensitive to UV light. The CAK complex binds to p53/TP53 in response to DNA damage. Interacts with CDK2, SF1/NR5A1, PUF60 and PRKCI.

Subcellular Location:

Nucleus. Cytoplasm. Cytoplasm, perinuclear region. Note=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.

Post-translational modifications:

Phosphorylation of Ser-164 during mitosis inactivates the enzyme.

Phosphorylation of Thr-170 is required for activity. Phosphorylated at Ser-164 and Thr-170 by CDK2.

Similarity:

Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. CDC2/CDKX subfamily.

Contains 1 protein kinase domain.

Database links:

[Entrez Gene: 1022](#) Human

[Entrez Gene: 12572](#) Mouse

[Entrez Gene: 171150](#) Rat

[Omim: 601955](#) Human

[SwissProt: P50613](#) Human

[SwissProt: Q03147](#) Mouse

[SwissProt: P51952](#) Rat

[Unigene: 184298](#) Human

[Unigene: 259718](#) Mouse

[Unigene: 98896](#) Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.