

ARG66661 anti-CDK7 phospho (Thr170) antibody

Package: 100 µg
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes CDK7 phospho (Thr170)
Tested Reactivity	Hu
Tested Application	IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	CDK7
Species	Human
Immunogen	Phosphospecific peptide around Thr170 of Human CDK7.
Conjugation	Un-conjugated
Alternate Names	CDK-activating kinase 1; Cell division protein kinase 7; Serine/threonine-protein kinase 1; CAK1; MO15; CDKN7; EC 2.7.11.22; STK1; TFIIF basal transcription factor complex kinase subunit; EC 2.7.11.23; p39 Mo15; 39 kDa protein kinase; p39MO15; Cyclin-dependent kinase 7; HCAK

Application Instructions

Application table	Application	Dilution
	IHC-P	1:100 - 1:300
	WB	1:500 - 1:2000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	
Observed Size	~ 40 kDa	

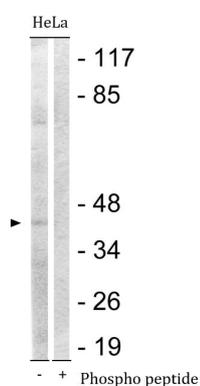
Properties

Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	PBS, 0.02% Sodium azide, 50% Glycerol and 0.5% BSA.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol and 0.5% BSA
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Bioinformation

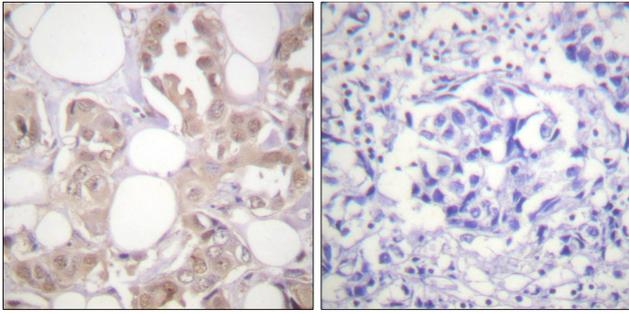
Gene Symbol	CDK7
Gene Full Name	cyclin-dependent kinase 7
Background	The protein encoded by this gene is a member of the cyclin-dependent protein kinase (CDK) family. CDK family members are highly similar to the gene products of <i>Saccharomyces cerevisiae</i> <i>cdc28</i> , and <i>Schizosaccharomyces pombe</i> <i>cdc2</i> , 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 TFIIF, 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-TFIIF 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. [UniProt]
Calculated Mw	39 kDa
PTM	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. [UniProt]
Cellular Localization	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. [UniProt]

Images



ARG66661 anti-CDK7 phospho (Thr170) antibody WB image

Western blot: HeLa cells treated with Calyculin A (50 nM for 30 min). Cell lysates stained with ARG66661 anti-CDK7 phospho (Thr170) antibody. The lane on the right is blocked with the phospho peptide.



ARG66661 anti-CDK7 phospho (Thr170) antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human breast carcinoma tissue stained with ARG66661 anti-CDK7 phospho (Thr170) antibody. The picture on the right is blocked with the phospho peptide.