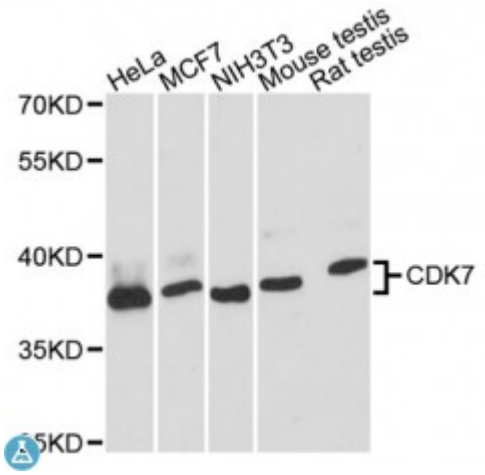
Anti-CDK7 Antibody



Description	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 TFIIH, 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.
Model	STJ114808
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	WB
Immunogen	Recombinant fusion protein containing a sequence corresponding to amino acids 211-346 of human CDK7 (NP_001790.1).
Gene ID	1022
Gene Symbol	CDK7
Dilution range	WB 1:500 - 1:2000
Tissue Specificity	Ubiquitous
Purification	Affinity purification
Note	For Research Use Only (RUO).

Protein Name	Cyclin-dependent kinase 7
Molecular Weight	39.038 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Storage Instruction	Store at -20C. Avoid freeze / thaw cycles.
Database Links	HGNC:1778OMIM:601955Reactome:R-HSA-112382
Alternative Names	Cyclin-dependent kinase 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
Cellular Localization	Nucleus, Cytoplasm, Cytoplasm, perinuclear region,
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,