

# CDK9 Rabbit mAb

Catalog # AP75247

## Product Information

Application	WB, IHC-P, IHC-F, IP, ICC
Primary Accession	<a href="#">P50750</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	42778

## Additional Information

Gene ID	1025
Other Names	CDK9
Dilution	WB~~1/500-1/1000 IHC-P~~N/A IHC-F~~N/A IP~~N/A ICC~~N/A
Format	Liquid

## Protein Information

Name	CDK9 {ECO:0000303 PubMed:10903437, ECO:0000312 HGNC:HGNC:1780}
------	--

Function	<p>Protein kinase involved in the regulation of transcription (PubMed:<a href="#">10574912</a>, PubMed:<a href="#">10757782</a>, PubMed:<a href="#">11145967</a>, PubMed:<a href="#">11575923</a>, PubMed:<a href="#">11809800</a>, PubMed:<a href="#">11884399</a>, PubMed:<a href="#">14701750</a>, PubMed:<a href="#">16109376</a>, PubMed:<a href="#">16109377</a>, PubMed:<a href="#">20930849</a>, PubMed:<a href="#">28426094</a>, PubMed:<a href="#">29335245</a>). Member of the cyclin-dependent kinase pair (CDK9/cyclin-T) complex, also called positive transcription elongation factor b (P-TEFb), which facilitates the transition from abortive to productive elongation by phosphorylating the CTD (C-terminal domain) of the large subunit of RNA polymerase II (RNAP II) POLR2A, SUPT5H and RDBP (PubMed:<a href="#">10574912</a>, PubMed:<a href="#">10757782</a>, PubMed:<a href="#">11145967</a>, PubMed:<a href="#">11575923</a>, PubMed:<a href="#">11809800</a>, PubMed:<a href="#">11884399</a>, PubMed:<a href="#">14701750</a>, PubMed:<a href="#">16109376</a>, PubMed:<a href="#">16109377</a>, PubMed:<a href="#">16427012</a>, PubMed:<a href="#">20930849</a>, PubMed:<a href="#">28426094</a>, PubMed:<a href="#">30134174</a>). This complex is inactive when in the 7SK snRNP complex form (PubMed:<a href="#">10574912</a>, PubMed:<a href="#">10757782</a>, PubMed:<a href="#">11145967</a>, PubMed:<a href="#">11575923</a>, PubMed:<a href="#">11809800</a>, PubMed:<a href="#">11884399</a>, PubMed:<a href="#">14701750</a>, PubMed:<a href="#">16109376</a>, PubMed:<a href="#">16109377</a>, PubMed:<a href="#">20930849</a>, PubMed:<a href="#">28426094</a>). Phosphorylates EP300, MYOD1, RPB1/POLR2A and AR and the negative elongation factors DSIF and NELFE (PubMed:<a href="#">10912001</a>, PubMed:<a href="#">11112772</a>, PubMed:<a href="#">12037670</a>, PubMed:<a href="#">16427012</a>, PubMed:<a href="#">20081228</a>, PubMed:<a href="#">20980437</a>, PubMed:<a href="#">21127351</a>, PubMed:<a href="#">9857195</a>). Regulates cytokine inducible</p>
----------	--

transcription networks by facilitating promoter recognition of target transcription factors (e.g. TNF-inducible RELA/p65 activation and IL-6-inducible STAT3 signaling) (PubMed:[17956865](#), PubMed:[18362169](#)). Promotes RNA synthesis in genetic programs for cell growth, differentiation and viral pathogenesis (PubMed:[10393184](#), PubMed:[11112772](#)). P-TEFb is also involved in cotranscriptional histone modification, mRNA processing and mRNA export (PubMed:[15564463](#), PubMed:[19575011](#), PubMed:[19844166](#)). Modulates a complex network of chromatin modifications including histone H2B monoubiquitination (H2Bub1), H3 lysine 4 trimethylation (H3K4me3) and H3K36me3; integrates phosphorylation during transcription with chromatin modifications to control co-transcriptional histone mRNA processing (PubMed:[15564463](#), PubMed:[19575011](#), PubMed:[19844166](#)). The CDK9/cyclin-K complex has also a kinase activity towards CTD of RNAP II and can substitute for CDK9/cyclin-T P-TEFb in vitro (PubMed:[21127351](#)). Replication stress response protein; the CDK9/cyclin-K complex is required for genome integrity maintenance, by promoting cell cycle recovery from replication arrest and limiting single-stranded DNA amount in response to replication stress, thus reducing the breakdown of stalled replication forks and avoiding DNA damage (PubMed:[20493174](#)). In addition, probable function in DNA repair of isoform 2 via interaction with KU70/XRCC6 (PubMed:[20493174](#)). Promotes cardiac myocyte enlargement (PubMed:[20081228](#)). RPB1/POLR2A phosphorylation on 'Ser-2' in CTD activates transcription (PubMed:[21127351](#)). AR phosphorylation modulates AR transcription factor promoter selectivity and cell growth. DSIF and NELF phosphorylation promotes transcription by inhibiting their negative effect (PubMed:[10912001](#), PubMed:[11112772](#), PubMed:[9857195](#)). The phosphorylation of MYOD1 enhances its transcriptional activity and thus promotes muscle differentiation (PubMed:[12037670](#)). Catalyzes phosphorylation of KAT5, promoting KAT5 recruitment to chromatin and histone acetyltransferase activity (PubMed:[29335245](#)).

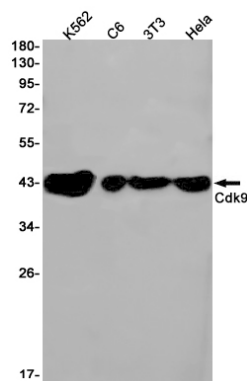
#### Cellular Location

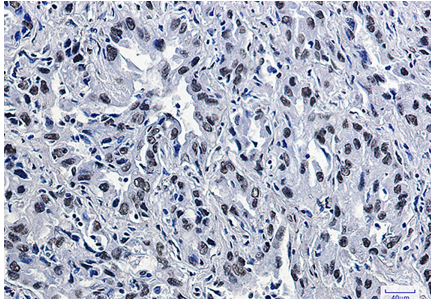
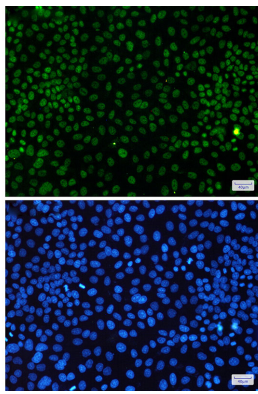
Nucleus. Cytoplasm. Nucleus, PML body. Note=Accumulates on chromatin in response to replication stress Complexed with CCNT1 in nuclear speckles, but uncomplexed form in the cytoplasm. The translocation from nucleus to cytoplasm is XPO1/CRM1- dependent. Associates with PML body when acetylated

#### Tissue Location

Ubiquitous.

#### Images





Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.