

CDK9 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP7525b**Specification**

CDK9 Antibody (C-term) Blocking Peptide - Product InformationPrimary Accession [P50750](#)**CDK9 Antibody (C-term) Blocking Peptide - Additional Information****Gene ID** 1025**Other Names**

Cyclin-dependent kinase 9, C-2K, Cell division cycle 2-like protein kinase 4, Cell division protein kinase 9, Serine/threonine-protein kinase PITALRE, Tat-associated kinase complex catalytic subunit, CDK9, CDC2L4, TAK

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP7525b](/product/products/AP7525b) was selected from the C-term region of human CDK9. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

CDK9 Antibody (C-term) Blocking Peptide - Protein Information**Name** CDK9 {ECO:0000303|PubMed:10903437, ECO:0000312|HGNC:HGNC:1780}**Function**

Protein kinase involved in the regulation of transcription (PubMed:[10574912](http://www.uniprot.org/citations/10574912), PubMed:[10757782](http://www.uniprot.org/citations/10757782), PubMed:[11145967](http://www.uniprot.org/citations/11145967), PubMed:[11575923](http://www.uniprot.org/citations/11575923), PubMed:[11809800](http://www.uniprot.org/citations/11809800), PubMed:[11884399](http://www.uniprot.org/citations/11884399), PubMed:[14701750](http://www.uniprot.org/citations/14701750), PubMed:[16109376](http://www.uniprot.org/citations/16109376), PubMed:[16109377](http://www.uniprot.org/citations/16109377), PubMed:

[20930849](http://www.uniprot.org/citations/20930849), PubMed: [28426094](http://www.uniprot.org/citations/28426094), PubMed: [29335245](http://www.uniprot.org/citations/29335245)). 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: [10574912](http://www.uniprot.org/citations/10574912), PubMed: [10757782](http://www.uniprot.org/citations/10757782), PubMed: [11145967](http://www.uniprot.org/citations/11145967), PubMed: [11575923](http://www.uniprot.org/citations/11575923), PubMed: [11809800](http://www.uniprot.org/citations/11809800), PubMed: [11884399](http://www.uniprot.org/citations/11884399), PubMed: [14701750](http://www.uniprot.org/citations/14701750), PubMed: [16109376](http://www.uniprot.org/citations/16109376), PubMed: [16109377](http://www.uniprot.org/citations/16109377), PubMed: [20930849](http://www.uniprot.org/citations/20930849), PubMed: [28426094](http://www.uniprot.org/citations/28426094), PubMed: [30134174](http://www.uniprot.org/citations/30134174)). This complex is inactive when in the 7SK snRNP complex form (PubMed: [10574912](http://www.uniprot.org/citations/10574912), PubMed: [10757782](http://www.uniprot.org/citations/10757782), PubMed: [11145967](http://www.uniprot.org/citations/11145967), PubMed: [11575923](http://www.uniprot.org/citations/11575923), PubMed: [11809800](http://www.uniprot.org/citations/11809800), PubMed: [11884399](http://www.uniprot.org/citations/11884399), PubMed: [14701750](http://www.uniprot.org/citations/14701750), PubMed: [16109376](http://www.uniprot.org/citations/16109376), PubMed: [16109377](http://www.uniprot.org/citations/16109377), PubMed: [20930849](http://www.uniprot.org/citations/20930849), PubMed: [28426094](http://www.uniprot.org/citations/28426094)). Phosphorylates EP300, MYOD1, RPB1/POLR2A and AR and the negative elongation factors DSIF and NELFE (PubMed: [9857195](http://www.uniprot.org/citations/9857195), PubMed: [10912001](http://www.uniprot.org/citations/10912001), PubMed: [11112772](http://www.uniprot.org/citations/11112772), PubMed: [12037670](http://www.uniprot.org/citations/12037670), PubMed: [20081228](http://www.uniprot.org/citations/20081228), PubMed: [20980437](http://www.uniprot.org/citations/20980437), PubMed: [21127351](http://www.uniprot.org/citations/21127351)). Regulates cytokine inducible 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](http://www.uniprot.org/citations/17956865), PubMed: [18362169](http://www.uniprot.org/citations/18362169)). Promotes RNA synthesis in genetic programs for cell growth, differentiation and viral pathogenesis (PubMed: [10393184](http://www.uniprot.org/citations/10393184), PubMed: [11112772](http://www.uniprot.org/citations/11112772)). P-TEFb is also involved in cotranscriptional histone modification, mRNA processing and mRNA export (PubMed: [15564463](http://www.uniprot.org/citations/15564463), PubMed: [19575011](http://www.uniprot.org/citations/19575011), PubMed: [19844166](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/15564463), PubMed: [19575011](http://www.uniprot.org/citations/19575011), PubMed: [19844166](http://www.uniprot.org/citations/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:9857195, PubMed:10912001, PubMed:11112772). 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.

CDK9 Antibody (C-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

CDK9 Antibody (C-term) Blocking Peptide - Images

CDK9 Antibody (C-term) Blocking Peptide - Background

CDK9, a member of the CDC2/CDKX subfamily of Ser/Thr protein kinases, is a component of the cyclin-dependent kinase pair (CDK9/cyclin T) complex, also called positive transcription elongation factor B (P-TEFB), which is proposed to facilitate the transition from abortive to production elongation by phosphorylating the CTD (carboxy-terminal domain) of the large subunit of RNA polymerase II (RNAP II). The CDK9/cyclin K complex has also a kinase activity toward CTD of RNAP II and can substitute for P-TEFB in vitro. In vitro, this protein phosphorylates retinoblastoma and myelin basic protein.

CDK9 Antibody (C-term) Blocking Peptide - References

Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002).Fu, T.J., et al., J. Biol. Chem. 274(49):34527-34530 (1999).Best, J.L., et al., Biochem. Biophys. Res. Commun. 208(2):562-568 (1995).Grana, X., et al., Proc. Natl. Acad. Sci. U.S.A. 91(9):3834-3838 (1994).Liu, H.,

et al., Gene 252 (1-2), 51-59 (2000).