

Anti-CDK9 (pT186) Antibody

Rabbit polyclonal antibody to CDK9 (pT186)
Catalog # AP61077

Product Information

Application	WB
Primary Accession	P50750
Other Accession	Q99J95
Reactivity	Human, Mouse, Rat, Pig, Chicken, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42778

Additional Information

Gene ID	1025
Other Names	CDC2L4; TAK; 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
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human CDK9. The exact sequence is proprietary.
Dilution	WB--WB (1/500 - 1/1000)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.
Storage	Store at -20 °C. Stable for 12 months from date of receipt

Protein Information

Name	CDK9 {ECO:0000303 PubMed:10903437, ECO:0000312 HGNC:HGNC:1780}
Function	Protein kinase involved in the regulation of transcription (PubMed: 10574912 , PubMed: 10757782 , PubMed: 11145967 , PubMed: 11575923 , PubMed: 11809800 , PubMed: 11884399 , PubMed: 14701750 , PubMed: 16109376 , PubMed: 16109377 , PubMed: 20930849 , PubMed: 28426094 , PubMed: 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 , PubMed: 10757782 , PubMed: 11145967 , PubMed: 11575923 , PubMed: 11809800 , PubMed: 11884399 , PubMed: 14701750 , PubMed: 16109376 , PubMed: 16109377 ,

PubMed:[16427012](#), PubMed:[20930849](#), PubMed:[28426094](#), PubMed:[30134174](#)). This complex is inactive when in the 7SK snRNP complex form (PubMed:[10574912](#), PubMed:[10757782](#), PubMed:[11145967](#), PubMed:[11575923](#), PubMed:[11809800](#), PubMed:[11884399](#), PubMed:[14701750](#), PubMed:[16109376](#), PubMed:[16109377](#), PubMed:[20930849](#), PubMed:[28426094](#)). Phosphorylates EP300, MYOD1, RPB1/POLR2A and AR and the negative elongation factors DSIF and NELFE (PubMed:[10912001](#), PubMed:[11112772](#), PubMed:[12037670](#), PubMed:[16427012](#), PubMed:[20081228](#), PubMed:[20980437](#), PubMed:[21127351](#), PubMed:[9857195](#)). 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](#), 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](#), PubMed:[28539972](#)). 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](#)). Also catalyzes phosphorylation of histone H1.4 (H1-4) at Ser-187' (H1.4S187Ph), a modification associated with transcription activation (PubMed:[28539972](#)). 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

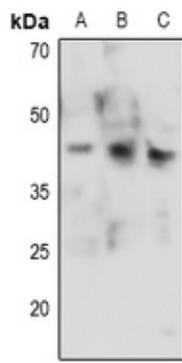
Tissue Location

Ubiquitous.

Background

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human CDK9. The exact sequence is proprietary.

Images



Western blot analysis of CDK9 (pT186) expression in PC3 (A), mouse liver (B), rat liver (C) whole cell lysates.

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