

Anti-Cdk9 Picoband Antibody
Catalog # ABO12224**Specification**

Anti-Cdk9 Picoband Antibody - Product Information

Application	WB, IHC-P
Primary Accession	P50750
Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Cyclin-dependent kinase 9(CDK9) detection. Tested with WB, IHC-P in Human;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Cdk9 Picoband Antibody - Additional Information

Gene ID 1025

Other Names

Cyclin-dependent kinase 9, 2.7.11.22, 2.7.11.23, 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

Calculated MW

42778 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, By Heat
Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization

Nucleus. Cytoplasm. Nucleus, PML body. 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 Specificity

Ubiquitous.

Protein Name

Cyclin-dependent kinase 9

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Na₃.

Immunogen

E.coli-derived human Cdk9 recombinant protein (Position: H141-F372). Human Cdk9 shares 99.1% amino acid (aa) sequence identity with both mouse and rat Cdk9.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. CDC2/CDKX subfamily.

Anti-Cdk9 Picoband Antibody - 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,</p>
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 Page 2/5
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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). 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:10757782).

href="http://www.uniprot.org/citations/12037670" target="_blank">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

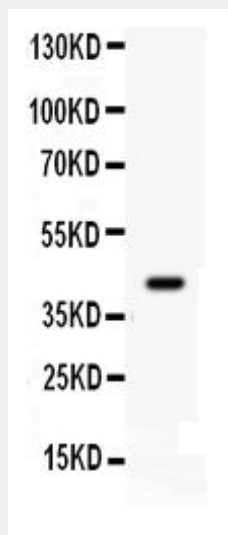
Ubiquitous.

Anti-Cdk9 Picoband Antibody - Protocols

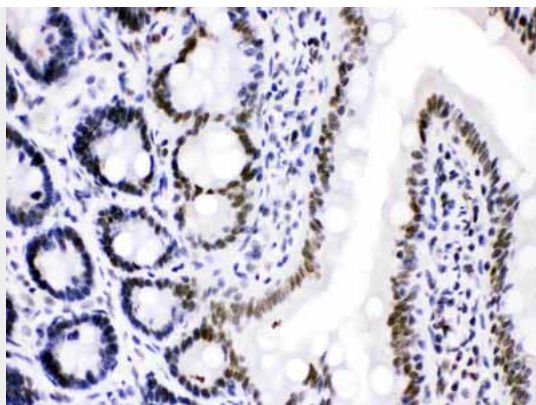
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

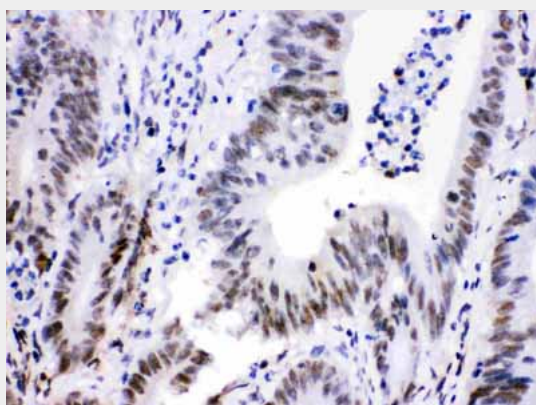
Anti-Cdk9 Picoband Antibody - Images



Anti- Cdk9 Picoband antibody, ABO12224, Western blottingAll lanes: Anti Cdk9 (ABO12224) at 0.5ug/mlWB: JURKAT Whole Cell Lysate at 40ugPredicted bind size: 43KDObserved bind size: 43KD



Anti- Cdk9 Picoband antibody, ABO12224, IHC(P)IHC(P): Rat Intestine Tissue



Anti- Cdk9 Picoband antibody, ABO12224, IHC(P)IHC(P): Human Intestinal Cancer Tissue

Anti-Cdk9 Picoband Antibody - 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 *S. cerevisiae* cdc28, and *S. pombe* cdc2, and known as important cell cycle regulators. This kinase was found to be a component of the multiprotein complex TAK/P-TEFb, which is an elongation factor for RNA polymerase II-directed transcription and functions by phosphorylating the C-terminal domain of the largest subunit of RNA polymerase II. This protein forms a complex with and is regulated by its regulatory subunit cyclin T or cyclin K. HIV-1 Tat protein was found to interact with this protein and cyclin T, which suggested a possible involvement of this protein in AIDS.