

**CDK5 Rabbit mAb [Lu7F]**

**Cat NO. :A52088**

**Information:**

Applications	Reactivity:	UniProt ID:	MW(kDa)	Host	Isotype	Size
WB IHC IP FC	Human,Mouse,R at	Q00535	33kDa	Rabbit	IgG	50ul,100ul,200ul

**Applications detail:**

Application	Dilution
WB	1:1000-2000
IHC	1:100
The optimal dilutions should be determined by the end user	

**Conjugate:**

UnConjugate

**Form:**

Liquid

**sensitivity:**

Endogenous

**Purification:**

Affinity-chromatography

**Specificity:**

Antibody is produced by immunizing animals with A synthesized peptide derived from human Cdk5

**Storage buffer and conditions:**

Antibody store in 10 mM PBS, 0.5mg/ml BSA, 50% glycerol (buffer) .

Shipped at 4°C. Store at-20°C or -80°C.

Products are valid for one natural year of receipt.Avoid repeated freeze / thaw cycles.

**Tissue specificity:**

[Isoform 1]: Ubiquitously expressed (PubMed:17009320, PubMed:19693690). Accumulates in cortical neurons (at protein level) (PubMed:17009320)...,[Isoform 2]: Expressed in the testis, skeletal muscle,

**Subcellular location:**

[Isoform 1]: Cytoplasm. Nucleus. Cell membrane,Peripheral membrane protein. Perikaryon. Cell projection, lamellipodium. Cell projection, growth cone. Cell junction, synapse, postsynaptic density.

**Function:**

**Introduction:** **WB:** Western Blot **IP:** Immunoprecipitation **IHC:** Immunohistochemistry **ChIP:** Chromatin Immunoprecipitation **ICC/IF:** Immunocytochemistry/Immunofluorescence **F:** Flow Cytometry

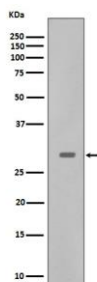
**Cross Reactivity:** **H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vr:** virus **Ml:** mink **C:** chicken **Dm** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine  
**Dg:** dog **Pg:** pig **Hr:** horse

**For Research Use Only. Not For Use In Diagnostic Procedures.**

Proline-directed serine/threonine-protein kinase essential for neuronal cell cycle arrest and differentiation and may be involved in apoptotic cell death in neuronal diseases by triggering abortive cell cycle re-entry. Interacts with D1 and D3-type G1 cyclins. Phosphorylates SRC, NOS3, VIM/vimentin, p35/CDK5R1, MEF2A, SIPA1L1, SH3GLB1, PXN, PAK1, MCAM/MUC18, SEPT5, SYN1, DNMT1, AMPH, SYNJ1, CDK16, RAC1, RHOA, CDC42, TONEBP/NFAT5, MAPT/TAU, MAP1B, histone H1, p53/TP53, HDAC1, APEX1, PTK2/FAK1, huntingtin/HTT, ATM, MAP2, NEFH and NEFM. Regulates several neuronal development and physiological processes including neuronal survival, migration and differentiation, axonal and neurite growth, synaptogenesis, oligodendrocyte differentiation, synaptic plasticity and neurotransmission, by phosphorylating key proteins. Negatively regulates the CACNA1B/CAV2.2-mediated Ca<sup>2+</sup> release probability at hippocampal neuronal soma and synaptic terminals (By similarity). Activated by interaction with CDK5R1 (p35) and CDK5R2 (p39), especially in postmitotic neurons, and promotes CDK5R1 (p35) expression in an autostimulation loop. Phosphorylates many downstream substrates such as Rho and Ras family small GTPases (e.g. PAK1, RAC1, RHOA, CDC42) or microtubule-binding proteins (e.g. MAPT/TAU, MAP2, MAP1B), and modulates actin dynamics to regulate neurite growth and/or spine morphogenesis. Phosphorylates also exocytosis associated proteins such as MCAM/MUC18, SEPT5, SYN1, and CDK16/PCTAIRE1 as well as endocytosis associated proteins such as DNMT1, AMPH and SYNJ1 at synaptic terminals. In the mature central nervous system (CNS), regulates neurotransmitter movements by phosphorylating substrates associated with neurotransmitter release and synapse plasticity, synaptic vesicle exocytosis, vesicles fusion with the presynaptic membrane, and endocytosis. Promotes cell survival by activating anti-apoptotic proteins BCL2 and STAT3, and negatively regulating of JNK3/MAPK10 activity. Phosphorylation of p53/TP53 in response to genotoxic and oxidative stresses enhances its stabilization by preventing ubiquitin ligase-mediated proteasomal degradation, and induces transactivation of p53/TP53 target genes, thus regulating apoptosis. Phosphorylation of p35/CDK5R1 enhances its stabilization by preventing calpain-mediated proteolysis producing p25/CDK5R1 and avoiding ubiquitin ligase-mediated proteasomal degradation. During aberrant cell-cycle activity and DNA damage, p25/CDK5 activity elicits cell-cycle activity and double-strand DNA breaks that precedes neuronal death by deregulating HDAC1. DNA damage triggered phosphorylation of huntingtin/HTT in nuclei of neurons protects neurons against polyglutamine expansion as well as DNA damage mediated toxicity. Phosphorylation of PXN reduces its interaction with PTK2/FAK1 in matrix-cell focal adhesions (MCFA) during oligodendrocytes (OLs) differentiation. Negative regulator of Wnt/beta-catenin signaling pathway. Activator of the GAIT

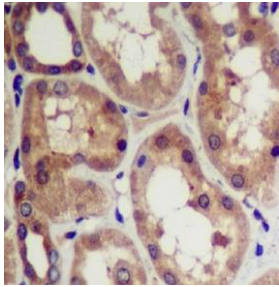
## Validation Data:

### CDK5 Rabbit mAb [Lu7F] Images



Western blot ( SDS PAGE ) analysis of extracts from HeLa cell lysate.Using CDK5 Rabbit mAb [Lu7F]at dilution of 1:1000 incubated at 4°C over night.

View more information on <http://naturebios.com>



Immunohistochemical analysis of paraffin-embedded human kidney, .Using CDK5 Rabbit mAb [Lu7F] at dilution of 1:100 incubated at 4 °C over night. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 1% w/v Milk, 1X TBST at 4°C overnight.