Phospho-CDK5 (Tyr15) Blocking Peptide – The purity is >90%,tested by HPLC and MS. Purity

PRODUCT OVERVIEW

Product Name	CDK5, Blocking Peptide
Full Product Name	Phospho-CDK5 (Tyr15) Blocking Peptide
Product Gene Name	CDK5 blocking peptide
Product Synonym Names	Cdk 5; Cdk5; CDK5_HUMAN; Cell division protein kinase 5; Crk6; Cyclin dependent kinase 5; Cyclin-dependent kinase 5; Protein kinase CDK5 splicing; PSSALRE; Serine threonine protein kinase PSSALRE; Serine/threonine-protein kinase PSSALRE; Tau protein kinase II catalytic subunit; TPKII catalytic subunit
Form/Format	Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 10 mg/ml.
Purity/Purification	The purity is >90%,tested by HPLC and MS.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C.
Antibody/Peptide Pairs	CDK5 (Tyr15) peptide (MBS9615723) is used for blocking the activity of CDK5 (Tyr15) antibody (MBS9601140)
Molecular Weight	33,304 Da
Chromosome Location	Chromosome: 7; NC_000007.13 (150750899..150755052, complement). Location: 7q36
OMIM	123831
Supply Chain Verification	Manufactured in a lab with traceable raw materials manufactured on site. Coordinated product portfolio of antibodies, pairs, conjugates, recombinant proteins, and immunoassay materials available, please inquire.
Notes	For phospho antibody, we provide phospho peptide (0.5mg) and non-phospho peptide (0.5mg)
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for CDK5 blocking peptide	Blocking/Control
Related Product Information for CDK5 blocking peptide	Blocking peptides are peptides that bind specifically to the target antibody and block antibody binding. These peptide usually contains the epitope recognized by the antibody. Antibodies bound to the blocking peptide no longer bind to the epitope on the target protein. This mechanism is useful when non-specific binding is an issue, for example, in Western blotting (immunoblot) and immunohistochemistry (IHC). By comparing the staining from the blocked antibody versus the antibody alone, one can see which staining is specific; Specific binding will be absent from the western blot or immunostaining performed with the neutralized antibody.
Other Notes	Small volumes of CDK5 blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CDK5 purchase	MBS9615723 is a blocking peptide targeting CDK5. Also known as Phospho-CDK5 (Tyr15) Blocking Peptide.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CDK5. It may not necessarily be applicable to this product.

NCBI GI #	256542306
NCBI GeneID	1020
NCBI Accession #	NP_001157882.1

UniProt Primary Accession #	Q00535
UniProt Secondary Accession #	A1XKG3
UniProt Related Accession #	Q00535
GenBank Nucleotide #	NM_001164410.2
NCBI Official Full Name	cyclin-dependent kinase 5 isoform 2
NCBI Official Synonym Full Names	cyclin-dependent kinase 5
NCBI Official Symbol	CDK5
NCBI Official Synonym Symbols	PSSALRE
UniProt Protein Name	Cyclin-dependent kinase 5
UniProt Synonym Protein Names	Cell division protein kinase 5; Serine/threonine-protein kinase PSSALRE; Tau protein kinase II catalytic subunit
Protein Family	Cyclin-dependent kinase
UniProt Gene Name	CDK5
UniProt Synonym Gene Names	CDKN5; TPKII catalytic subunit
UniProt Entry Name	CDK5_HUMAN
NCBI Protein Information	cyclin-dependent kinase 5; TPKII catalytic subunit; protein kinase CDK5 splicing; cell division protein kinase 5; serine/threonine-protein kinase PSSALRE; tau protein kinase II catalytic subunit
NCBI Summary for CDK5	This gene encodes a proline-directed serine/threonine kinase that is a member of the cyclin-dependent kinase family of proteins. Unlike other members of the family, the protein encoded by this gene does not directly control cell cycle regulation. Instead the protein, which is predominantly expressed at high levels in mammalian postmitotic central nervous system neurons, functions in diverse processes such as synaptic plasticity and neuronal migration through phosphorylation of proteins required for cytoskeletal organization, endocytosis and exocytosis, and apoptosis. In humans, an allelic variant of the gene that results in undetectable levels of the protein has been associated with lethal autosomal recessive lissencephaly-7. Alternative splicing results in multiple transcript variants. [provided by RefSeq, May 2015]

UniProt Comments for CDK5	CDK5: a protein kinase of the CDK family. Unlike other members of this family, it is not activated by cyclins but by p35 (CDK5R1) and p39. An important regulator of neuronal positioning during brain development. May also play a role in synaptogenesis and neurotransmission. Substrates include TAU, MAP2, NF-H and -M, Nudel, PDE6, beta-catenin, amphyphysin, dynamin I, synapsin 1, Munc-18, and NMDA receptor 2A. Plays a role in myogenesis, haematopoietic cell differentiation, spermatogenesis, insulin secretion, and lens differentiation. Implicated in the pathology of neurofibrillary tangles and formation of senile plaques, hallmarks of Alzheimer?s disease. Induces tau phosphorylation and aggregation and neurofibrillary tangle deposition and neurodegeneration in in vitro and in vivo animal models. Brain samples from Alzeimer?s pateints show elevated CDK5 activity. Protein type: Kinase, protein; EC 2.7.11.1; Cell cycle regulation; Protein kinase, Ser/Thr (non-receptor); Protein kinase, CMGC; CMGC group; CDK family; CDK5 subfamily; CDK/CDK5 subfamily Chromosomal Location of Human Ortholog: 7q36 Cellular Component: cyclin-dependent protein kinase 5 activator complex; dendrite; postsynaptic density; perikaryon; cytosol; postsynaptic membrane; cytoskeleton; growth cone; membrane; cell soma; axon; lamellipodium; cytoplasm; nucleus; cell junction; neuromuscular junction; filopodium Molecular Function: acetylcholine receptor activator activity; ephrin receptor binding; p53 binding; protein kinase activity; protein serine/threonine kinase activity; ErbB-2 class receptor binding; protein binding; ErbB-3 class receptor binding; cyclin-dependent protein kinase activity; cytoskeletal protein binding; tau-protein kinase activity; kinase activity; ATP binding Biological Process: Schwann cell development; negative regulation of synaptic plasticity; axon extension; cerebellar cortex formation; rhythmic process; regulation of synaptic plasticity; motor axon guidance; sensory perception of pain; receptor clustering; regulation of cell migration; corpus callosum development; regulation of apoptosis; neuron differentiation; receptor catabolic process; oligodendrocyte differentiation; neurite development; central nervous system neuron development; synaptic transmission, glutamatergic; skeletal muscle development; dendrite morphogenesis; cell division; synaptic vesicle endocytosis; negative regulation of protein ubiquitination; negative regulation of transcription, DNA-dependent; axon guidance; regulated secretory pathway; synaptic transmission, dopaminergic; negative regulation of protein export from nucleus; positive regulation of protein binding; protein amino acid autophosphorylation; cell-matrix adhesion; neuron migration; nucleocytoplasmic transport; negative regulation of axon extension; negative regulation of cell cycle; synaptic transmission; intracellular protein transport; synaptogenesis; behavioral response to cocaine; positive regulation of neuron apoptosis; visual learning; cortical actin cytoskeleton organization and biogenesis; layer formation in the cerebral cortex; serine phosphorylation of STAT3 protein; negative regulation of proteolysis; hippocampus development; peptidyl-threonine phosphorylation; cell cycle; cell proliferation; positive regulation of calcium ion-dependent exocytosis; embryonic development; synaptic vesicle exocytosis; peptidyl-serine phosphorylation; neuron apoptosis; positive regulation of protein kinase activity; blood coagulation; regulation of excitatory postsynaptic membrane potential; phosphorylation Disease: Lissencephaly 7 With Cerebellar Hypoplasia
Research Articles on CDK5	**1.** The role of Cdk5 deregulation in cell-cycle-driven Alzheimer disease neuronal death.
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