Cyclin Dependent Kinase 5 (CDK5) ELISA Kit for Human

PRODUCT OVERVIEW

Product Name	Cyclin Dependent Kinase 5 (CDK5), ELISA Kit
Full Product Name	Human Cyclin Dependent Kinase 5 ELISA Kit
Product Gene Name	CDK5 elisa kit
Species Reactivity	Human
Assay Type	Sandwich
Preparation and Storage	Store all reagents at 2-8 degree C
Molecular Weight	33,304 Da
Chromosome Location	Chromosome: 7; NC_000007.13 (150750899..150755052, complement). Location: 7q36
OMIM	123831
3D Structure	ModBase 3D Structure for Q00535
Related Product Information for CDK5 elisa kit	MBS042943 is a ready-to-use microwell, strip plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Cyclin Dependent Kinase 5 (CDK5) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing CDK5. The ELISA analytical biochemical technique of the MBS042943 kit is based on CDK5 antibody-CDK5 antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect CDK5 antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, CDK5. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).
Other Notes	Small volumes of CDK5 elisa kit 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.

ADDITIONAL DETAILS

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

NCBI GI #	4826675
NCBI GeneID	1020
NCBI Accession #	NP_004926.1
UniProt Primary Accession #	Q00535
UniProt Secondary Accession #	A1XKG3
UniProt Related Accession #	Q00535
GenBank Nucleotide #	NM_004935.3
NCBI Official Full Name	cyclin-dependent kinase 5 isoform 1
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: Protein kinase, CMGC; Cell cycle regulation; EC 2.7.11.1; Protein kinase, Ser/Thr (non-receptor); Kinase, protein; 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; growth cone; cytoskeleton; cell soma; membrane; lamellipodium; axon; cytoplasm; neuromuscular junction; nucleus; cell junction; filopodium Molecular Function: acetylcholine receptor activator activity; ErbB-2 class receptor binding; protein serine/threonine kinase activity; protein binding; ephrin receptor binding; ErbB-3 class receptor binding; cyclin-dependent protein kinase activity; p53 binding; cytoskeletal protein binding; tau-protein kinase activity; kinase activity; ATP binding; protein kinase activity 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; regulation of cell migration; receptor clustering; corpus callosum development; neuron differentiation; regulation of apoptosis; 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; synaptic transmission, dopaminergic; axon guidance; regulated secretory pathway; negative regulation of protein export from nucleus; positive regulation of protein binding; cell-matrix adhesion; protein amino acid autophosphorylation; 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; synaptic vesicle exocytosis; neuron apoptosis; peptidyl-serine phosphorylation; embryonic development; 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.** UCH-L1 physically interacts with CDK1, CDK4, and CDK5, enhancing their kinase activity.

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