Recombinant CDK5 protein (His tag)

Catalog Number	540147
Synonyms	Cell division protein kinase 5; Cyclin-dependent-like kinase 5; Serine/threonine-protein kinase PSSALRE; Tau protein kinase II catalytic subunit; TPKII catalytic subunit
Species	Human
Expression System	E. coli
Accession	Q00535
Molecular Weight	Predictes a molecular mass of 34.96 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 36 kDa band.

Product Information

Sequence Region	1-292
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-292 aa (Q00535) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Cyclin-dependent kinase 5 (CDK5) Fragment (residues 1-292) is a high-purity protein encompassing the complete protein kinase domain. This fragment is engineered to support studies of CDK5's proline-directed serine/threonine kinase activity, neuronal development roles, and substrate interactions, offering researchers a precise tool for investigating kinase function and signaling pathways. Cyclin-dependent kinase 5 (CDK5) is a proline-directed serine/threonine-protein kinase essential for neuronal cell cycle arrest, differentiation, and survival. It regulates diverse processes including neuronal migration, axonal growth, synaptogenesis, and synaptic plasticity by phosphorylating key substrates such as microtubule-binding proteins (e.g., MAPT/TAU), small GTPases (e.g., RAC1, CDC42), and proteins involved in vesicle dynamics (e.g., SYN1, DNM1). CDK5 activation depends on binding to activators like CDK5R1 (p35) and is implicated in apoptotic signaling, DNA damage response, and neurodegenerative pathways. Subcellularly, CDK5 localizes to the cytoplasm, nucleus, cell membrane, and synaptic structures, with mislocalization and hyperactivation observed under neurotoxic stress. The 1-292 fragment retains the functional kinase domain, enabling focused research on CDK5's catalytic mechanisms and regulatory roles.