Data Sheet (Cat.No.TMPY-04556)

TargetMol

CDK5 Protein, Human, Recombinant (GST)

General Information

Synonyms:	PSSALRE;cyclin-dependent kinase 5
Protein Construction:	A DNA sequence encoding the human CDK5 isoform 1 (NP_004926.1) (Met 1-Pro 292) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q00535-1
Molecular Weight:	59.6 kDa (predicted); 59.6 kDa (reducing conditions)

QC Testing

Biological Activity:	No Kinase Activity
Purity:	> 94 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, 0.5 mM GSH, pH 7.0.Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Cell division protein kinase 5, also known as Cyclin-dependent kinase 5, Serine/threonine-protein kinase PSSALRE, Tau protein kinase II catalytic subunit, TPKII catalytic subunit and CDK5, is a cytoplasm protein which belongs to theprotein kinase superfamily, CMGC Ser/Thr protein kinase family and CDC2 / CDKX subfamily. Cyclin-dependent kinases (Cdks) are a family of proline-directed Ser/Thr kinases known for their role in the control of cell cycle progression. In 1992, this family was joined by CDK5, which is an atypical member in that it uses its own

activators and is multifunctional, playing important regulatory roles in multiple cellular functions. CDK5, unlike other Cdks, is not regulated by cyclins, and its activity is primarily detected in postmitotic neurons in developing and adult nervous systems. CDK5 is activated by association with a neuron-specific activator, p35 or its isoform p39. CDK5 is probably involved in the control of the cell cycle. It interacts with D1 and D3-type G1 cyclins. CDK5 can phosphorylate histone H1, tau, MAP2 and NF-H and NF-M. It also interacts with p35 which activates the kinase. CDK5 plays important roles in various neuronal activities, including neuronal migration, synaptic activity, and neuronal cell death.

Reference

Smith,D.S. et al., 2001, Cell Growth Differ. 12 (6):277-83.
Mapelli,M. et al., 2003, Neurosignals. 12 (4-5):164-72.
Cheng,K. et al., 2003, Neurosignals. 12 (4-5):180-90.
Fischer,A. et al., 2003, Curr Drug Targets CNS Neurol Disord 2 (6): 375 - 81.
Lalioti,V. et al., 2010, Cell Cycle 9 (2): 284-311.