

CDK1 Protein, Human (sf9)

Cat. No.:	HY-P702779
Synonyms:	Cyclin-dependent kinase 1; CDK1; p34 protein kinase; CDC2; CDC28A; CDKN1; P34CDC2
Species:	Human
Source:	Sf9 insect cells
Accession:	P06493 (M1-M297)
Gene ID:	983
Molecular Weight:	34.25 kDa

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.2 µm filtered solution of 50 mM HEPES, 200 mM NaCl, 20% glycerol, 1mM DTT, pH7.5.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	<p>The CDK1/CDC2-cyclin-B complex is a key regulator of the cell cycle. It plays an important control role in the interphase fertilized egg and is crucial for the early stages of embryonic development. During G2 and early mitosis, CDC25A/B/C-mediated dephosphorylation activates the CDK1/cyclin complex. This complex phosphorylates multiple substrates, triggering centrosome dissociation, Golgi dynamics, nuclear envelope disruption, and chromosome condensation. After chromosomes are condensed and aligned on the metaphase plate, CDK1 activity is turned off by WEE1- and PKMYT1-mediated phosphorylation, allowing sister chromatid separation, chromosome decondensation, nuclear envelope remodeling, and cytokinesis. When DNA is damaged, CDK1 will be inactivated by phosphorylation mediated by PKR/EIF2AK2 and WEE1, thereby stopping the cell cycle and genome replication and promoting DNA repair. After repair is completed, CDK1 is reactivated by WIP1-dependent signaling to resume cell cycle progression. In proliferating cells, CDK1-mediated phosphorylation can inhibit FOXO1 interactions and promote FOXO1 nuclear accumulation and transcription factor activity, leading to cell death of postmitotic neurons. In addition, phosphorylation of CDK1 can also regulate microtubule dynamics, spindle formation and other processes.</p>
------------	---

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA