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Recombinant Human CDK1&Cyclin B1 Kinase

Catalog No.: RP03302LQ Recombinant

Sequence Information

Species	Gene ID	Swiss Prot
Human	983&891	P06493&P14635

Tags
N-GST (CDK1) & N-Flag-His (Cyclin B1)

Synonyms
CDK1; CDC2; CDC28A; CDKN1; P34CDC2; Cyclin-dependent kinase 1; Cyclin B1; CCNB1; CCNB; G2/mitotic-specific cyclin-B1

Product Information

Source	Purification
Baculovirus-Insect Cells	≥ 90 % as determined by SDS-PAGE;≥ 90 % as determined by HPLC.

Calculated MW	Observed MW
60.6 kDa/33.8 kDa	50-60 kDa/28-33 kDa

Endotoxin
< 1 EU/μg of the protein by LAL method.

Formulation
Supplied as a 0.22 μm filtered solution in 50 mM Tris-HCl, 200 mM NaCl, 20% glycerol, 1 mM DTT. (pH 7.5). Contact us for customized product form or formulation.

Reconstitution
Please use running water to thaw it quickly.

Contact

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Background

CDK1 also known as cyclin-dependent kinase 1 or cell division cycle protein 2 homolog is a highly conserved protein that functions as a serine/threonine protein kinase, and is a key player in cell cycle regulation. CDK1 is a small protein (approximately 34 kDa), and is highly conserved. When bound to its cyclin partners, CDK1 phosphorylation leads to cell cycle progression. Given its essential role in cell cycle progression, CDK1 is highly regulated. Most obviously, CDK1 is regulated by its binding with its cyclin partners. Cyclin binding alters access to the active site of CDK1, allowing for CDK1 activity. Cyclin B1 contributes to the switch-like all or none behavior of the cell in deciding to commit to mitosis. Cyclin B1-CDK1 is involved in the early events of mitosis, such as chromosome condensation, nuclear envelope breakdown, and spindle pole assembly. The role of cyclin B1 is to transition the cell from G2 to M phase but becomes unregulated in cancer cells where overexpression of cyclin B1 can lead to uncontrolled cell growth by binding to its partner Cdks. Binding of Cdks can lead to phosphorylation of other substrates at inappropriate time and unregulated proliferation.

Basic Information

Description
Recombinant Human CDK1&Cyclin B1 Protein is produced by Baculovirus-Insect Cells expression system. The target protein is expressed with sequence (Met1-Met297 (CDK1) & Asn165-Val433 (Cyclin B1)) of Human CDK1&CCNB1 (Accession #P06493&P14635) fused with a N-GST (CDK1) & N-Flag-His (Cyclin B1) tag.

Bio-Activity
The activity of CDK1/Cyclin B1 is based on the MSA technology, and the content and ratio of the substrate and the product are directly separated and detected in real time and dynamically by the different migration rates of the substrate and the product after the enzymatic reaction.

Shipping
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Storage
Store at -70°C. This product is stable at ≤ -70°C for up to 1 year from the date of receipt. For optimal storage, aliquot into smaller quantities after centrifugation and store at recommended temperature.
Aliquots below 10 μL are not advisable. Product must not be stored in diluted solutions. Avoid repeated freeze-thaw cycles.
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Operational Notes
For your safety and health, please wear a lab coat and disposable gloves for handling.

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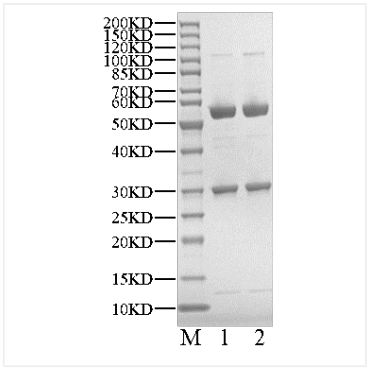
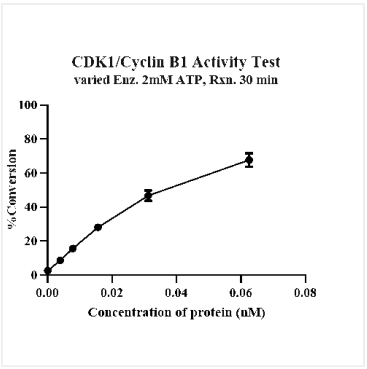
Validation Data



Recombinant Human CDK1&Cyclin B1 Kinase was determined by SDS-PAGE under reducing (R) and non-reducing (NR) conditions.



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