# Recombinant Human CDK1&Cyclin B1 Kinase

## Catalog No.: RP03302LQ



## Sequence Information

| Species | Gene ID |
|---|---|
| Human | 983&891 |

| Swiss Prot | Tags |
|---|---|
| P06493&P14635 | 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.

## 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.

**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**

Lyophilized proteins are shipped at ambient temperature.
Liquid proteins are shipped at frozen temperature with dry ice.
Upon receipt, store it immediately at the temperature recommended below.

**Storage**

Store at -70℃

**Operational Notes**

For your safety and health, please wear a lab coat and disposable gloves for handling.

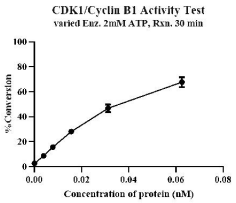
**Contact**

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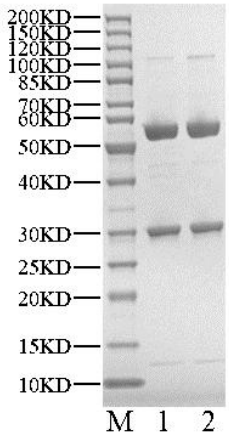


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## Validation Data




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.




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