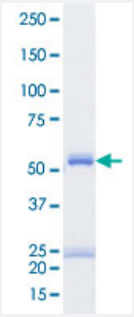
Bioactive Full-Length

CDK2/CCNE1 (Human) Recombinant Protein

Catalog # P5512 Size 5 ug

Applications



Result of activity analysis

Result of activity analysis

Specification

Product Description	Human CDK2 (NP_001789.2, 1 a.a. - 298 a.a.) and CCNE1 (NP_001229.1, 1 a.a. - 410 a.a.) full-length recombinant protein with GST tag expressed in baculovirus infected Sf21 cells.
Host	insect
Theoretical MW (kDa)	61
Form	Liquid
Preparation Method	Baculovirus infected insect cell (Sf21) expression system
Purification	Glutathione sepharose chromatography
Purity	69 % by SDS-PAGE/CBB staining

Activity	The activity was measured by off-chip mobility shift assay. The enzyme was incubated with fluorescence-labeled substrate and Mg(or Mn)/ATP. The phosphorylated and unphosphorylated substrates were separated and detected by LabChip 3000. Substrate: Modified Histone H1. ATP: 100 uM.
Quality Control Testing	Loading 1 ug protein in SDS-PAGE
Storage Buffer	In 50 mM Tris-HCl, 150 mM NaCl, pH 7.5 (0.1% CHAPS, 1 mM DTT, 10% glycerol)
Storage Instruction	Store at -80°C. Aliquot to avoid repeated freezing and thawing.
Note	Result of activity analysis Result of activity analysis

Applications

- Functional Study
- SDS-PAGE

Gene Info — CCNE1

Entrez GeneID	898
Protein Accession#	NP_001789.2 (Gene ID : 1017);NP_001229.1 (Gene ID : 898)
Gene Name	CCNE1
Gene Alias	CCNE
Gene Description	cyclin E1
Omim ID	123837
Gene Ontology	Hyperlink

Gene Summary	The protein encoded by this gene belongs to the highly conserved cyclin family, whose members are characterized by a dramatic periodicity in protein abundance through the cell cycle. Cyclins fu nction as regulators of CDK kinases. Different cyclins exhibit distinct expression and degradation patterns which contribute to the temporal coordination of each mitotic event. This cyclin forms a co mplex with and functions as a regulatory subunit of CDK2, whose activity is required for cell cycle G1/S transition. This protein accumulates at the G1-S phase boundary and is degraded as cells p rogress through S phase. Overexpression of this gene has been observed in many tumors, which results in chromosome instability, and thus may contribute to tumorigenesis. This protein was foun d to associate with, and be involved in, the phosphorylation of NPAT protein (nuclear protein map ped to the ATM locus), which participates in cell-cycle regulated histone gene expression and pla ys a critical role in promoting cell-cycle progression in the absence of pRB. Two alternatively splic ed transcript variants of this gene, which encode distinct isoforms, have been described. Two add itional splice variants were reported but detailed nucleotide sequence information is not yet availa ble. [provided by RefSeq
Other Designations	cyclin Es|cyclin Et

Gene Info — CDK2

Entrez GeneID	1017
Protein Accession#	NP_001789.2 (Gene ID : 1017);NP_001229.1 (Gene ID : 898)
Gene Name	CDK2
Gene Alias	p33(CDK2)
Gene Description	cyclin-dependent kinase 2
Omim ID	116953
Gene Ontology	Hyperlink
Gene Summary	The protein encoded by this gene is a member of the Ser/Thr protein kinase family. This protein ki nase is highly similar to the gene products of S. cerevisiae cdc28, and S. pombe cdc2. It is a cata lytic subunit of the cyclin-dependent protein kinase complex, whose activity is restricted to the G1-S phase, and essential for cell cycle G1/S phase transition. This protein associates with and regul ated by the regulatory subunits of the complex including cyclin A or E, CDK inhibitor p21Cip1 (CD KN1A) and p27Kip1 (CDKN1B). Its activity is also regulated by its protein phosphorylation. Two a lternatively spliced variants and multiple transcription initiation sites of this gene have been report ed. [provided by RefSeq
Other Designations	cdc2-related protein kinase|cell devision kinase 2|p33 protein kinase

Pathway

- Cell cycle

- Cell cycle
- p53 signaling pathway
- p53 signaling pathway
- Pathways in cancer
- Pathways in cancer
- Prostate cancer
- Prostate cancer
- Small cell lung cancer
- Small cell lung cancer

Disease

- Adenocarcinoma
- Azoospermia
- Breast cancer
- Breast cancer
- Breast Neoplasms
- Breast Neoplasms
- Chromosome Aberrations
- Diabetes Mellitus
- Disease Progression
- Esophageal Neoplasms
- Genetic Predisposition to Disease
- Genetic Predisposition to Disease
- Kidney Failure
- Lymphoma
- Neoplasm Invasiveness

- Neoplasm Invasiveness
- Neoplasms
- Ovarian cancer
- Ovarian cancer
- Ovarian Neoplasms
- Ovarian Neoplasms
- Urinary Bladder Neoplasms