



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CDK1 Protein
Catalog Number: hRP-1092
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human cyclin-dependent kinase 1 (CDK1) gene is a member of the Ser/Thr protein kinase family. This protein is a catalytic subunit of the highly conserved protein kinase complex known as M-phase promoting factor (MPF), which is essential for G1/S and G2/M phase transitions of eukaryotic cell cycle. Mitotic cyclins stably associate with this protein and function as regulatory subunits. The kinase activity of this protein is controlled by cyclin accumulation and destruction through the cell cycle. The phosphorylation and dephosphorylation of this protein also play important regulatory roles in cell cycle control. Alternatively spliced transcript variants encoding different isoforms have been found for this gene.

Full-length human CDK1 cDNA (297aa, Isoform-1) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein was expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: CDK1 (CDC2, CDC28a; p34CDC2)
Accession Number: NP_001777
Species: Human
Size: 50 µg / Vial
Composition: 1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Sakurikar,N., et al., *Cyclin-dependent kinase-1 (Cdk1)/cyclin B1 dictates cell fate after mitotic arrest via phosphoregulation of antiapoptotic Bcl-2 proteins*. J. Biol. Chem. 287 (46),



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39193-39204 (2012)

Yu,B., et al., *CDK1 regulates mediator of DNA damage checkpoint 1 during mitotic DNA damage*. Cancer Res. 72 (21), 5448-5453 (2012)

Maia,A.R., et al., *Cdk1 and Plk1 mediate a CLASP2 phospho-switch that stabilizes kinetochore-microtubule attachments*. J. Cell Biol. 199 (2), 285-301 (2012)

Applications

1. May be used for in vitro CDK1 mediated BCL-2 antiapoptotic pathway regulation study in various cancer cell line with "ProFectin" based intracellular delivery of this protein.
2. May be used for mapping VTCN1 protein-protein interaction mapping or kinase activity assay.
3. May be used as specific substrate protein for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFEDYTKIEKIGEGTYGVVYKGRHKTTGQVVAMKKIR
LESEEEGVPSTAIREISLLKELRHPNIVSLQDVLMDQSRLYLIFEFLSMDLKKYLD SIPPGQYM
DSSLVKSYLYQILQGI V FCHSRRVLHRDLKPQNLLIDDKGTIKLADFGLARAFGIP IRVYTHEV
VTLWYRSPEVLLGSARYSTPVDIWSIGTIFAELATKKPLFHGDSEIDQLFRIFRALGTPNNEVW
PEVESLQDYKNTFPKWKPGSLASHVKNLDENGLDLLSKMLIYDPAKRISGKMALNHPYFNLDLNDN
QIKKM