



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CCND1 Protein
Catalog Number: hRP-1741
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human cyclin D1 (CCND1) gene belongs to the highly conserved cyclin family, whose members are characterized by a dramatic periodicity in protein abundance throughout the cell cycle. Cyclins function as regulators of CDK kinases. Different cyclins exhibit distinct expression and degradation patterns which contribute to the temporal coordination of each mitotic event. CCND1 forms a complex with and functions as a regulatory subunit of CDK4 or CDK6, whose activity is required for cell cycle G1/S transition. CCND1 protein has been shown to interact with tumor suppressor protein Rb and the expression of this gene is regulated positively by Rb. Mutations, amplification and overexpression of this gene, which alters cell cycle progression, are observed frequently in a variety of tumors and may contribute to tumorigenesis.

Full-length human CCND1 cDNA (294aa) was constructed with codon optimization gene synthesis technology and expressed with a small T7-His-TEV cleavage site Tag (28aa) 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: CCND1 (BCL1; D11S287E; PRAD1; U21B31)
Accession Number: NP_444284.1
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



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Antonis Kourtidis, et al., *Distinct E-cadherin-based complexes regulate cell behaviour through miRNA processing or Src and p120 catenin activity*. Nature Cell Biology. Vol 17, 9. pp1145-1157 (2015)

Hu J, et al., *miR-449a Regulates proliferation and chemosensitivity to cisplatin by targeting cyclin D1 and BCL2 in SGC7901 cells*. Dig. Dis. Sci. 59 (2), 336-345 (2014)

Gu H, et al., *MicroRNA-490-3p inhibits proliferation of A549 lung cancer cells by targeting CCND1*. Biochem. Biophys. Res. Commun. 444 (1), 104-108 (2014)

Ju X, et al., *Identification of a cyclin D1 network in prostate cancer that antagonizes epithelial-mesenchymal restraint*. Cancer Res. 74 (2), 508-519 (2014)

Kopparapu PK, et al., *Expression of cyclin d1 and its association with disease characteristics in bladder cancer*. Anticancer Res. 33 (12), 5235-5242 (2013)

Applications

1. May be used for in vitro CCND1 related basolateral complex mediated microRNA processing and tumor cell transformation pathway regulation study for various cancer cells with “ProFectin” reagent based intracellular delivery of this protein.
2. May be used for mapping CCND1 protein-protein interaction.
3. Potential biomarker protein for monitoring tumor prognosis, such as bladder cancer.
4. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGEFEHQLLCCEVETIRRAYPDANLLNDRVLRAMLKAEET
CAPSVSYFKCVQKEVLPSMRKIVATWMLEVCEEQKCEEEVFPLAMNYLDRFLSLEPVKKSRLQL
LGATCMFVASKMKETIPLTAEKLCIYTDNSIRPEELLQMEILLVKNLKWNLAAAMTPHDFIEHFL
SKMPEAEENKQIIRKHAQTFVALCATDVKFISNPPSMVAAGSVVAAVQGLNLRSPNNFLSYRRL
TRFLSRVIKCDPDCLRACQEQIEALLESSLRQAQQNMDPKAAEEEEEEEEVDLACTPTDVRDV
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