



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CDC37 Protein
Catalog Number: hRP-1704
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human CDC37 gene is highly similar to Cdc 37, a cell division cycle control protein of *Sacchomyces cerevisiae*. This protein is a molecular chaperone with specific function in cell signal transduction. It has been shown to form complex with Hsp90 and a variety of protein kinases including CDK4, CDK6, SRC, RAF-1, MOK, as well as eIF2 alpha kinases. It is thought to play a critical role in directing Hsp90 to its target kinases. Recent data indicated that Hsp90 & CDC37 interaction regulates tau stability and phosphorylation dynamics, which may play a role in controlling Alzheimer's disease progress.

Full-length human CDC37 (377aa) gene was constructed using gene synthesis technology with codon optimization. A tag of 31 aa (T7/His/TEV cleavage site) was fused to NUDT16 N-terminal. This protein is 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: CDC37 (P50CDC37)
Accession Number: NP_008996.1
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

Wang Y, et al., *Coordinated regulation of serum- and glucocorticoid-inducible kinase 3 by a C-terminal hydrophobic motif and Hsp90-Cdc37 chaperone complex*. J. Biol. Chem. 289 (8), 4815-4826 (2014)



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Eckl JM, et al., *Cdc37 (cell division cycle 37) restricts Hsp90 (heat shock protein 90) motility by interaction with N-terminal and middle domain binding sites.* J. Biol. Chem. 288 (22), 16032-16042 (2013)

Erazo T, et al., *Canonical and kinase activity-independent mechanisms for extracellular signal-regulated kinase 5 (ERK5) nuclear translocation require dissociation of Hsp90 from the ERK5-Cdc37 complex.* Mol. Cell. Biol. 33 (8), 1671-1686 (2013)

Wu F, et al., *Novel interaction between the co-chaperone Cdc37 and Rho GTPase exchange factor Vav3 promotes androgen receptor activity and prostate cancer growth.* J. Biol. Chem. 288 (8), 5463-5474 (2013)

Salminen A, et al., *Hsp90 regulates Tau pathology through co-chaperone complexes in Alzheimer's disease.* Prog Neurobiol. Jan; 93 (1): 99-110. (2011)

Applications

1. May be used for in vitro CDC37 mediated Hsp90 activities regulation study in protein degradation pathways for neuronal and cancer cells with "ProFectin" reagent based intracellular delivery of this protein.
2. May be used as specific protein substrate for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
3. May be used for protein-protein interaction mapping.
4. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGFVDYSVVDHIEVSDDDEDETHPNIDTASLFRWRHQAR
VERMEQFQKEKEELDRGCRECKRKVAECQRKLKELEVAEGGKAELERLQAEAQQLRKEERSWEQ
KLEEMRKKEKSMPWNVDTL SKDGF SKSMVNTKPEKTEEDSEEVREQKHKT FVEKYEKQIKHFGM
LRRWDDSQKYLSDNVHLVCEETANYLVIWCIDLEVEEKCALMEQVAHQ TIVMQFILELAKSLKV
DPRACFRQFFTKIKTADRQYMEGFNDELEAFKERVRGRAKLRIEKAMKEYEEEEERKKRLGPGGL
DPVEVYESLPEELQKCFDVKDVQMLQDAISKMDPTDAKYHMQRCIDSGLWVPNSKASEAKEGEE
AGPGDPLLEAVPKTGDEKDVSV