



LD Biopharma, Inc.
9924 Mesa Rim Road, Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CTNNB1 Protein
Catalog Number: hRP-1850
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by catenin β -1 (CTNNB1) gene is part of a complex of proteins that constitute adherens junctions (AJs). AJs are necessary for the creation and maintenance of epithelial cell layers by regulating cell growth and adhesion between cells. The encoded protein also anchors the actin cytoskeleton and may be responsible for transmitting the contact inhibition signal that causes cells to stop dividing once the epithelial sheet is complete. Finally, this protein binds to the product of the APC gene, which is mutated in adenomatous polyposis of the colon. Mutations in this gene are a cause of colorectal cancer (CRC), pilomatrixoma (PTR), medulloblastoma (MDB), and ovarian cancer. Three transcript variants encoding the same protein have been found for this gene. Recent data indicated that CTNNB1 interacts with TCF4 and plays a role in regulation of Histone Deacetylase-1 in cell differentiation or carcinogenesis pathways.

Full-length of human CTNNB1 cDNA (780aa) was constructed with codon optimization gene synthesis technology 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: CTNNB1 (CTNNB; MRD19)
Accession Number: NP_001895.1
Species: Human
Size: 20 μ g / Vial
Composition: 0.2 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.



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Key References

Teo AE, et al., *Pregnancy, Primary Aldosteronism, and Adrenal CTNNB1 Mutations*. N. Engl. J. Med. 373 (15), 1429-1436 (2015)

Matsumoto T, et al., *Distinct beta-catenin and PIK3CA mutation profiles in endometriosis-associated ovarian endometrioid and clear cell carcinomas*. Am. J. Clin. Pathol. 144 (3), 452-463 (2015)

Douchi D, et al., *Silencing of LRRFIP1 reverses the epithelial-mesenchymal transition via inhibition of the Wnt/beta-catenin signaling pathway*. Cancer Lett. 365 (1), 132-140 (2015)

Yang Y et al., *Disruption of beta-catenin binding to parathyroid hormone (PTH) receptor inhibits PTH-stimulated ERK1/2 activation*. Biochem. Biophys. Res. Commun. 464 (1), 27-32 (2015)

Applications

1. May be used for in vitro CTNNB1 mediated Wnt/TCF4 pathway regulation study in stem / cancer cells by intracellular delivery of this protein with ProFectin Reagent.
2. May be used for protein-protein interaction mapping.
3. As enzymatic substrate for various proteases.
4. Potential biomarker protein as IHC analysis of CTNNB1 in various cancer patient samples for prediction of patient survival rate in various treatments.
5. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGFATQADLMELDMAMEPDRKAAVSHWQQQSYLDSGIH
SGATTTAPSLSGKGNPEEEDVDTSQVLYEWEQGFSSQSFTEQEVADIDGQYAMTRAQRVRAAMFP
ETLDEGMQIPSTQFDDAAHPTNVQRLAEPSSQMLKHAVVNLINYQDDAELATRAIPELTKLLNDED
QVVVNKAAVMVHQLSKKEASRHAIMRSPQMVSAIVRTMQNTNDVETARCTAGTLHNLSSHREGL



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LAIFKSGGIPALVKMLGSPVDSVLFYAITTLHNLLHQQEGAKMAVRLAGGLQKMVALLNKTNVK
FLAITTDCLQILAYGNQESKLIILASGGPQALVNIMRTYTYEKLLWTTSRVLKVLVSVCSNKPA
IVEAGGMQALGLHLTDPSQRLVQNCLWTLRNLSDAATKQEGMEGLLGTLVQLLGSDDINVVTCA
AGILSNLTCNNYKNKMMVCQVGGIEALVRTVLRAGDREDITEPAICALRHLTSRHQEAEMAQNA
VRLHYGLPVVVKLLHPPSHWPLIKATVGLIRNLALCPANHAPLREQGAI PRLVQLLVRAHQDTQ
RRTSMGGTQQQFVEGVRMEEIVEGCTGALHILARDVHNRIVIRGLNTIPLFVQLLYSPIENIQR
VAAGVLCELAQDKEAAEAIEAEGATAPLTELLHSRNEGVATYAAAVLFRMSEDKPQDYKKRLSV
ELTSSLFRTEPMAWNETADLGLDIGAQGEPLGYRQDDPSYRSFHSGGYGQDALGMDPMEHEMG
GHHPGADYPVDGLPDLGHAQDLMDGLPPGDSNQLAWFDTDL