



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human UCHL3 Protein
Catalog Number: hRP-1267
Manufacturer: LD Biopharma, Inc.

Introduction

Human ubiquitin carboxyl - terminal hydrolase isozyme L3 (UCHL3) protein is a member of the deubiquitinating enzyme family. Members of this family are proteases that catalyze the removal of ubiquitin from polypeptides and are divided into five classes, depending on the mechanism of catalysis. This protein may hydrolyze the ubiquitinyl-N-epsilon amide bond of ubiquitinated proteins to regenerate ubiquitin for another catalytic cycle. The UCHL3 regulates apical membrane recycling, indirectly increases the phosphorylation of IGFIR, AKT and FOXO1 and promotes insulin-signaling and insulin-induced adipogenesis. UCHL3 activity is also required for stress-response retinal, skeletal muscle and germ cell maintenance. It may be involved in working memory. UCHL3 can hydrolyze UBB (+1), a mutated form of ubiquitin which is not effectively degraded by the proteasome and is associated with neurogenerative disorders.

Full-length mature form of human UCHL3 cDNA (1 – 230aa, derived from BC018125) 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: UCHL3 (UCH-L3)
Accession Number: NP_005993
Species: Human
Size: 50 µg / Vial
Composition: 0.50 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

Boudreaux, D.A., et al., *Contribution of active site glutamine to rate enhancement in ubiquitin C-terminal hydrolases*. FEBS J. 279 (6), 1106-1118 (2012)

Issaenko, O.A. et al., *Chalcone-based small-molecule inhibitors attenuate malignant phenotype via targeting deubiquitinating enzymes*. Cell Cycle 11 (9), 1804-1817 (2012)

van Beekum, O., et al., *A novel RNAi lethality rescue screen to identify regulators of adipogenesis*. PLoS ONE 7 (6), E37680 (2012)

Nam, M.J., et al., *Molecular profiling of the immune response in colon cancer using protein microarrays: occurrence of autoantibodies to ubiquitin C-terminal hydrolase L3*. Proteomics 3 (11), 2108-2115 (2003)

Applications

1. May be used for in vitro UCHL3 protein mediated adipogenesis regulation or cancer cell development study by intracellular delivery of this protein with protein-delivery reagent such as ProFectin Reagent Kit.
2. May be used for protein-protein interaction assay.
3. As substrate protein for various proteases assay.
4. Potential diagnostic biomarker protein, for various cancer diseases, such as colon cancer.
5. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGFEGQRWLPLEANPEVTNQFLKQLGLHPNWQFVDVYG
MDPELLSMVPRPVCVAVLLLLFPITEKYEVEFRTEEEEEKIKSQGDVTSSVYFMKQTI SNACGTIGL
IHAIANNKDKMHFESGSTLKKFLEESVSMSP EERARYLENYDAIRVTHETSAHEGQTEAPSIDE
KVDLHFIALVHVDGHL YELDGRKPFPI NHGETSDETLLEDAIEVCKKFMERDPDELRFNAIALS
AA