



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

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human USP3 Protein  
**Catalog Number:** hTF-1785  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Ubiquitin carboxyl-terminal hydrolase 3 (USP3) gene encodes a hydrolase that deubiquitinates monoubiquitinated target proteins such as histone H2A and H2B. It is required for proper progression through S phase and subsequent mitotic entry. It may also regulate the DNA damage response (DDR) checkpoint through deubiquitination of H2A at DNA damage sites. It associates with the chromatin. Recent data indicated that USP3 plays a role in regulating ER stress pathway, which has been linked to type-I diabetes, and Parkinson's diseases.

Full-length human USP3 cDNA (519 aa, Isoform-1, derived from BC065300) was constructed with codon optimized gene synthesis technology, and fusion with 30 aa N-terminal T7 / His / TEV cleavage site Tag. 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:** USP3 (SIH003; UBP)  
**Accession Number:** NP\_006528  
**Species:** Human  
**Size:** 10 µg / Vial  
**Composition:** 0.10 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 7 days.

### Key References

William E, et al., *Metabolomic Quantitative Trait Loci (mQTL) Mapping Implicates the Ubiquitin Proteasome System in Cardiovascular Disease Pathogenesis*. PLOS Genetics | DOI:10.1371/journal.gen.1005553 November 5, 2015



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Dato S, et al., *UCP3 polymorphisms, hand grip performance and survival at old age: association analysis in two Danish middle aged and elderly cohorts*. Mech. Ageing Dev. 133 (8), 530-537 (2012)

Nicassio F, et al., *Human USP3 is a chromatin modifier required for S phase progression and genome stability*. Curr. Biol. 17 (22), 1972-1977 (2007)

## Applications

1. May be used for in vitro human USP3 mediated target protein deubiquitination regulation study for various 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. Potential drug development target for regulating ER stress pathway in various diseases.
5. As immunogen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGEGSECPHLSSSVCIAPDSAKFPNGSPSSWCCSVCRSNK  
SPWVCLTCSSVHCGRYVNGHAKKHYEDAQVPLTNHKKSEKQDKVQHTVCMDCSSYSTYCYRCDD  
FVVNDTKLGLVQKVREHLQNLNSAFTADRHKRKLLENSTLNSKLLKVNSTTAICATGLRNL  
GNTCFMNAIQSLSNIEQFCCYFKELPAVELRNGKTAGRRTYHTRSQGDNNVSLVEEFRKTLCA  
LWQGSQTAFSPESLFYVVWKIMPNFRGYQQQDAHEFMRYLLDHLHLELQGGFNGVSRSAIQEN  
STLSASNKCCINGASTVVTAIFGGILQNEVNCLICGTESRKFDPFLLDLSLDIPSQFRSKRSKNQ  
ENGPVCSLRDCLRSFTDLEELDETELYMCHKCKKKQKSTKKFWIQKLPKVLCLHLKRFHWTAYL  
RNKVDTYVEFPLRGLDMKCYLLEPENSGPESCLYDLAAVVVHHGSGVSGHYTAYATHEGRWFH  
FNDSTVTLTDEETVVKAKAYILFYVEHQAKAGSDKL