



**LD Biopharma, Inc.**  
9924 Mesa Rim Road, Suite B  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human p53 Protein  
**Catalog Number:** hTF-1470  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human P53 gene encodes a tumor suppressor protein containing transcriptional activation, DNA binding, and oligomerization domains. The encoded protein responds to diverse cellular stresses to regulate expression of target genes, thereby inducing cell cycle arrest, apoptosis, senescence, DNA repair, or changes in metabolism. Mutations in this gene are associated with a variety of human cancers, including hereditary cancers such as Li-Fraumeni syndrome. Alternative splicing of this gene and the use of alternate promoters result in multiple transcript variants and isoforms. Recent data indicated that intracellular delivery recombinant wild-type p53 protein in cancer cell could selectively induce tumor cell apoptosis.

Full-length human wild type p53 (393aa, derived from BC003596) gene was constructed using codon-optimization strategy as non-fusion protein and expressed in E.coli as inclusion bodies. This protein was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** P53 (TP53; BCC7; LES1; TRP53)  
**Accession Number:** NP\_000537  
**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 7 days.

### Key References

Hyenjong Hong., et al., *Suppression of induced pluripotent stem cell generation by the*



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*p53-p21 pathway*. Nature. 460. 1132-1135 (2009).

Miyabi Inoue. et al., *p53 protein transduction therapy: Successful Targeting and Inhibition of the Growth of the Bladder Cancer Cells*. European Urology 49. 161-168 (2006).

Abida, W.M., et al., *FBXO11 promotes the Neddylation of p53 and inhibits its transcriptional activity*. J. Biol. Chem. 282 (3), 1797-1804 (2007)

Huang, J., et al., *Repression of p53 activity by Smyd2-mediated methylation*. Nature 444 (7119), 629-632 (2006)

Radhakrishnan, S.K. et al., *CDK9 phosphorylates p53 on serine residues 33, 315 and 392*. Cell Cycle 5 (5), 519-521 (2006)

## Applications

1. May be used for in vitro MMLT11 human P53 mediated gene transcription regulation for various human cell's differentiation or cancer cell apoptosis 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 p53 protein-protein interaction mapping.
4. As immunogen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MEEPQSDPSVEPPLSQETFSDLWKLLPENNVLSPLPSQAMDDLMLSPDDIEQWFTEDEPGPDEAP  
RMPEAAPRVAPAPAAPTPAAPAPAPSWPLSSSVPSQKTYQGSYGFRLLGFLHSGTAKSVTCTYSP  
ALNKMFCQLAKTQPVQLWVDSTPPPGTRVRAMAIYKQSQHMTFVRRCPHHERCSDSDGLAPPQ  
HLIRVEGNLRVEYLDDRNTFRHSVVVPYEPPEVGSDCSTTIHNYMCNSSCMGGMNRRPILTIIT  
LEDSSGNLLGRNSFEVRVCACAGRDRRTEENLRKKGEPHHELPPGSTKRALPNNTSSSPQPKK  
KPLDGEYFTLQIRGRERFEMFRELNEALELKDAQAGKEPGGSRAHSSHLKSKKGQSTSRHKKLM  
FKTEGPDS



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