



LD Biopharma, Inc.
7384 Trade Street, Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human HSP47 Protein
Catalog Number: HRP-0527
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human Serpin H1 (also named as HSP47) gene encodes a member of the serpin superfamily of serine proteinase inhibitors. The HSP47 is localized to the endoplasmic reticulum and plays a role in collagen biosynthesis as a collagen-specific molecular chaperone. Recent data indicated that HSP47 is prominently expressed in adipocytes, with its levels tightly linked to the degree of body adiposity in humans. Auto-antibody to the HSP47 has been found in patients with rheumatoid arthritis. Expression of this gene may be a marker for cancer, and nucleotide polymorphisms in HSP47 gene may be associated with preterm birth caused by preterm premature rupture of membranes.

Full-length mature form of recombinant human HSP47 cDNA (19 - 418 aa, derived from BC070087) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal 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: HSP47 (SERPH; PIG14 ; CBP1)
Accession Number: NP_001226
Species: Human
Size: 50µg / 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, DTT and others.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least two weeks.

Key References



LD Biopharma, Inc.
7384 Trade Street, Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

Wang, Q. et al., *Serpin family H member 1 and its related collagen gene network are the potential prognostic biomarkers and anticancer targets for glioma*. J Biochem Mol Toxicol 38 (1), e23541 (2024)

Shin, J., et al., *HSP47 levels determine the degree of body adiposity*. Nat Commun 14 (1), 7319 (2023)

Manuela Thienel., et al., *Immobility-associated thromboprotection is conserved across mammalian species from bear to human*. Science. Apr 14;380(6641): 178-187(2023)

Applications

1. May be used for in vitro HSP47 mediated signaling pathway regulation for adipocyte study using intracellular delivery of recombinant human HSP47 protein with protein delivery reagent such as ProFectin.
2. May be used for HSP47 protein-protein interaction assay.
3. May be used as specific substrate protein for HSP47 specific kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential therapeutic and auto-immuno-disease biomarker protein, which may be used for obesity treatment or rheumatoid arthritis diagnosis, Venous Thromboembolism.
5. As native human HSP47 immunogen for specific antibody production.

Quality Control

Purity: > 92 % by SDS-PAGE.

Recombinant Human HSP47 Protein Sequence (47.8 kD)

MASMTGGQQMGRGHHHHHENLYFQGGEFAEVKKPAAAAAPGTAEKLSPKAATLAERSAGLAFSLYQAMAKDQAVENILVSPVVVASSLGLVSLGGKATTASQAKAVLSAEQLRDEEVHAGLGELLRSLSNSTARNVTWKLGSRLYGPSSVSFADDFVRSSKQHYNCEHSKINFRDKRSALQSINWAAQTTDGKLPVETKDVERTDGALLVNAMFFKPHWDEKFFHMKVDNRGFMVTRSYTVGVMHRTGLYNYDDEKEKLQIVEMPLAHKLSLIIILMPHHVEPLERLEKLLTKEQLKIWMGKMQKKAVAIISLPKGVVEVTHDLQKHLAGLGLTEAIDKNKADLSRMSGKKDLYLASVFHATAFELDTDGNPFDQDIYGREELRSPKLFYADHPFIFLVRDTQSGSLLF IGRLVRPKGDKMRDEL