



LD Biopharma, Inc.
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<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human SERPINB1 Protein
Catalog Number: hRP-1816
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human leukocyte elastase inhibitor (SERPINB1) gene is a member of the serpin family of proteinase inhibitors. Members of this family maintain homeostasis by neutralizing overexpressed proteinase activity through their function as suicide substrates. This protein inhibits the neutrophil-derived proteinases neutrophil elastase, cathepsin G, and proteinase-3 and thus protects tissues from damage at inflammatory sites. Recent data indicated that SerpinB1, as hepatocytes-secretory protease inhibitor regulating beta cell proliferation in human by modulating canonical growth and survival signaling pathway.

Full-length human SERPINB1 cDNA (378 aa) was constructed with codon optimization using 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: SERPINB1 (EI; ELANH2; HEL-S-27; LEI; M/NEI; PI2)
Accession Number: NP_109591.1
Species: Human
Size: 50 µg / Vial
Composition: 0.5 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.

Key References

Abdelfattah El Ouaamari, *SerpinB1 promotes Pancreatic β cell proliferation*. Cell Metabolism. 23, 1-12 (2016)



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Cui X, et al., *Decreased expression of SERPINB1 correlates with tumor invasion and poor prognosis in hepatocellular carcinoma*. J. Mol. Histol. 45 (1), 59-68 (2014)

Lepretre C, et al., *Apoptosis-inducing factor (AIF) and leukocyte elastase inhibitor/L-DNase II (LEI/LDNaseII), can interact to conduct caspase-independent cell death*. Apoptosis 18 (9), 1048-1059 (2013)

Applications

1. May be used for in vitro SerpinB1 mediated pancreatic $\square\square$ cell proliferation stimulation regulation study in caspase-1 dependent pathway by intracellular delivery of this protein with ProFectin Reagent.
2. May be used for protein-protein interaction mapping.
3. May be used as specific substrate protein for kinase, ad ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential biomarker protein for prognostic diagnosis of various cancers such as liver cancer by monitoring SerpinB1 expression level in tumor.
5. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGEFEQLSSANTRFALDLFLALSENNPAGNIFISPFSSIS
SAMAMVFLGTRGNTAAQLSKTFHFNTVEEVHSRFQSLNADINKRGASYILKLANRLYGEKTYNF
LPEFLVSTQKTYGADLASVDFQHASEDARKTINQWVKGQTEGKIPELLASGMVDNMTKLVLVNA
IYFKGNWKDKFMKEATTNAPFRLNKKDRKTVKMMYQKKKFAYGYIEDLKCRVLELPYQGEELSM
VILLPDDIEDESTGLKKIEEQLTLEKLHEWTKPENLDFIEVNVSLPRFKLEESYTLNSDLARLG
VQDLFNSSKADLSGMSGARDIFISKIVHKSFVEVNEEGTEAAAATAGIATFCMLMPEENFTADH
PFLFFIRHNSSGSILFLGRFSSP