



**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 Gelsolin Protein  
**Catalog Number:** hRP-1504  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

The protein encoded by human gelsolin (GSN) gene binds to the 'plus' ends of actin monomers and filaments to prevent monomer exchange. The encoded calcium-regulated protein functions in both assembly and disassembly of actin filaments. Defects in this gene are a cause of familial amyloidosis Finnish type (FAF). Multiple transcript variants encoding several different isoforms have been found for GSN gene. Recent data indicated that GSN is auto-antigen, which its specific antibody could be detected in Rheumatoid Arthritis patient's synovial fluid.

Full-length mature human GSN (730 aa, Isoform-b, derived from BC026033) gene was constructed with 29 aa N-terminal T7 / His / TEV cleavage site Tag and 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:** GSN (ADF; AGEL)  
**Accession Number:** NP\_937895  
**Species:** Human  
**Size:** 50 µg / 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 .  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

### Key References

Sagarika Biswas, et al., *Identification of Novel Autoantigen in the Synovial Fluid Of Rheumatoid Arthritis Patients Using an Immunoproteomics Approach*. Plos ONE 8 e56246 (2013)



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Bannykh SI, et al., *Formation of gelsolin amyloid fibrils in the rough endoplasmic reticulum of skeletal muscle in the gelsolin mouse model of inclusion body myositis: comparative analysis to human sporadic inclusion body myositis*. *Ultrastruct Pathol* 37 (5), 304-311 (2013)

Yuan X, et al., *ATF3 suppresses metastasis of bladder cancer by regulating gelsolin-mediated remodeling of the actin cytoskeleton*. *Cancer Res.* 73 (12), 3625-3637 (2013)

Garcia-Exposito L, et al., *Gelsolin activity controls efficient early HIV-1 infection*. *Retrovirology* 10, 39 (2013)

## Applications

1. May be used for in vitro GSN mediated actin polymerization regulation study for cancer cell metastasis or viral infection by intracellular delivery of this protein using “ProFectin” reagent.
2. May be used for mapping GSN protein-protein interaction.
3. May be used as specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential biomarker protein for early diagnosis of Rheumatoid Arthritis.
5. As antigen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGFDVEHPEFLKAGKEPGLQIWRVEKFDLVPVPTNLYG  
DFFTGDAYVILKTVQLRNGNLQYDLHYWLGNECSQDESGAAAIFTVQLDDYLNGRAVQHREVQG  
FESATFLGYFKSGLKYKKGVASGFKHVVPNEVVVQRLFQVKGRRVVRATEVPVSWESFNNGDC  
FILD LGNNIHQWCGSNSNRYERL KATQVSKGIRDNERSGRARVHVSEEGTEPEAMLQVLGPKPA  
LPAGTEDTAKEDAANRKLAKLYKVSNGAGTMSVSLVADENPFAQGALKSEDCFILDHGKDGKIF  
VWKGKQANTEERKAALKTASDFITKMDYPKQTQVSVLPEGGETPLFKQFFKNWRDPDQTDGLGL  
SYLSSHIANVERVPFDAATLHTSTAMAAQHGMDDGTGQKQIWRIEGSNKVPVDPATYGFYGG



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DSYIILYNYRHGGRQGQIIYNWQGAQSTQDEVAASAILTAQLDEELGGTPVQSRVVQGKEPAHL  
MSLFGGKPMIIYKGGTSREGGQTAPASTRLFQVRANSAGATRAVEVLPKAGALNSNDAFVLKTP  
SAAYLWVGTGASEAEKTGAQELLRVLRAQPVQVAEGSEPDGFWEALGGKAAYRTSPRLKDKKMD  
AHPRLFACSNKIGRFVIEEVPGELMQEDLATDDVMLLDTWDQVFVWVGKDSQEEKTEAL TSA  
KRYIETDPANRRRTPITVVKQGFEPSPFVGWFLGWDDDYWSVDPLDRAMAELAA