



LD Biopharma, Inc.  
7384 Trade Street, Suite B  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant sfGFP-Human **LG3 Peptide** Fusion Protein  
**Catalog Number:** HRP-4000  
**Manufacturer:** LD Biopharma, Inc. USA

### Introduction

Human LG3 peptide which derived from an enzymatic fragment of Perlecan, has anti-angiogenic properties that require binding of calcium ions for full activity. The LG3 peptide is the C-terminal bioactive proteolytic fragment of endorepellin, which is itself an 80 kDa bioactive C-terminal protein of perlecan. Perlecan is a major extracellular matrix constituent of all basement membranes and significantly, articular cartilage, and neuromuscular junctions. It was hypothesized that endorepellin might be released from articular cartilage during remodeling or inflammation. Given that during intense physical activity/exercise, both muscle tissue and articular cartilage are subjected to forces capable of inducing inflammation and tissue remodeling processes, the appearance of the LG3 peptide of endorepellin in the urine of physically active mining workers. While perlecan is known to have pro-angiogenic functions in vivo, its C-terminal bioactive fragment, endorepellin, is an inhibitor of angiogenesis.

195aa of human LG3 peptide (4197 – 4391aa of human PGBM cDNA) was constructed with codon optimization gene synthesis and expressed with a SuperGFP Protein as N-terminal (sfGFP; 257aa) fusion Tag at target protein (LG3) in *E.coli* as a soluble protein. The final product was affinity column purified in PBS derived buffer.

**Gene Symbol:** LG3 Peptide ( PGBM; HSPG2; PLC )  
**Accession Number:** NP\_005520  
**Species:** Human  
**Size:** 100 µg / Vial  
**Composition:** 2.0 mg/ml, sterile filtered, in PBS buffer with 20% glycerol, 1mM DTT.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least two weeks.



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## Key References

Zhao XX, et al., *Perlecan: Roles in osteoarthritis and potential treating target*. Life Sci 312, 121190 (2023)

Murdoch AD, et al., *Primary structure of the human heparan sulfate proteoglycan from basement membrane (HSPG2/perlecan). A chimeric molecule with multiple domains homologous to the low density lipoprotein receptor, laminin, neural cell adhesion molecules, and epidermal growth factor*. J Biol Chem 267 (12), 8544-8557 (1992)

Ichimizu Shota, et al. "Cell-penetrating mechanism of intracellular targeting albumin: contribution of macropinocytosis induction and endosomal escape." Journal of Controlled Release 304: 156-163. (2019)

## Applications

1. May be used for LG3 peptide mediated anti-angiogenesis regulation study in vitro for endothelial cells with this recombinant LG3 protein either as soluble factor or as coating matrix protein.
2. May be used for LG3 peptide - protein interaction assay.
3. As native human LG3 peptide immunogen for specific antibody production.

## Quality Control

Purity: > 92% by SDS-PAGE.

sfGFP protein: **Ex λ** = 485nm, and **Em λ** = 510nm.

## Recombinant sfGFP-Human LG3 peptide Fusion Protein Sequence (50.2 kD)

MKHHHHHHQVSKGEELEFTGVVPIVLVDGVDVNGHKFSVRGEGEGDATNGKLTTLKFICTTGKLPV  
PWPTLVTTLYGVQCFSRYPDHMKRHDFFKSAMPEGYVQERTISFKDDGTYKTRAEVKFEGLTL  
VNRIELKGIDFKEDGNILGHKLEYNFNHNVYITADKQKNGIKANFKIRHNVEDGSVQLADHYQ  
QNTPIGDGPVLLPDNHYLSTQSVLSKDPNEKRDMVLLFEFVTAAGITHGMDELYKSGLRSGGSG  
**GENLYFQGS**DAPGQYGAYFHDDGFLAFLPFGHVFSRSLPEVPETIELEVRTSTASGLLLWQGVEVG  
EAGQGKDFISLGLQDGHVFRYQLGSGEARLVSEDPINDGEWHRVTALREGRRGSIQVDGEEELV  
SGRSPGPNVAVNAKGSVYIGGAPDVATLTGGREFSSGITGCVKNLVLHSARPGAPPPQPLDLQHR  
AQAGANTRPCPS