



LD Biopharma, Inc.
9924 Mesa Rim Road Suite B
San Diego, CA 92121
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<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human Lumican Protein
Catalog Number: hRP-0540
Manufacturer: LD Biopharma, Inc.

Introduction

Human Lumican (LUM) gene encodes a member of the small leucine-rich proteoglycan (SLRP) family that includes decorin, biglycan, fibromodulin, keratocan, epiphycan, and osteoglycin. In these bifunctional molecules, the protein moiety binds collagen fibrils and the highly charged hydrophilic glycosaminoglycans regulate interfibrillar spacings. Lumican is the major keratan sulfate proteoglycan of the cornea but is also distributed in interstitial collagenous matrices throughout the body. Lumican may regulate collagen fibril organization and circumferential growth, corneal transparency, and epithelial cell migration and tissue repair.

Full length human Lumican cDNA (19 - 33aa) was constructed with codon optimization and 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, refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: LUM (LDC; SRR2D)
Accession Number: NP_002336.1
Species: Human
Size: 50 µg / Vial
Composition: 0.25 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Nikitovic,D., et al., *Lumican regulates osteosarcoma cell adhesion by modulating*



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TGFbeta2 activity. Int. J. Biochem. Cell Biol. 43 (6), 928-935 (2011)

Kiga,N., et al., *Expression of lumican and fibromodulin following interleukin-1 beta stimulation of disc cells of the human temporomandibular joint*. Eur J Histochem 55 (2), E11 (2011)

Svensson,L., et al., *Fibromodulin and lumican bind to the same region on collagen type I fibrils*. FEBS Lett. 470 (2), 178-182 (2000)

Applications

1. May be used as matrix protein for coating to study regulation of various cell types, such as osteoblasts, specific differentiation in vitro.
2. May be used for tissue matrix networking protein-protein interaction mapping.
3. May be used as antigen for specific antibody production.

Quality Control

1. Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFQYYDYDFPLSIYGQSSPNCAPECNCPE
SYPSAMYC
DELKLSVPMVPPGIKYLYLRNNQIDHIDEKAFENVTDLQWLILDHNLLENSKIKGRVFSK
LQ
LKKLHINHNNLTESVGPLPKSLEDLQLTHNKITKLGSFEGLVNLTFIHLQHNRLKEDAVS
AAFK
GLKSLEYLDLSFNQIARLPSGLPVSLTLTYLDNNKISNIPDEYFKRFNALQYLRLSHNELADSG
IPGNSFNVSSLVELDLSYNKLNIPVTNENLENYYLEVNQLEKFDIKSFCKILGPLSYSKIKHL
RLDGNRISETSLPPDMYECLRVANEVTLN