

#### DESCRIPTION

<b>Source</b>	Mouse myeloma cell line, NS0-derived human Lumican protein Gln19-Asn338, with a C-terminal 6-His tag Accession # P51884
<b>N-terminal Sequence Analysis</b>	No results obtained: Gln19 predicted
<b>Predicted Molecular Mass</b>	37.5 kDa

#### SPECIFICATIONS

<b>SDS-PAGE</b>	55-65 kDa, reducing conditions
<b>Activity</b>	Measured by the ability of the immobilized protein to support the adhesion of BCE C/D-1b bovine corneal endothelial cells. When $5 \times 10^4$ cells per well are added to Recombinant Human Lumican coated plates (10 µg/mL, 100 µL/well), >35% will adhere after 50 minutes at 37 °C. <b>Optimal dilutions should be determined by each laboratory for each application.</b>
<b>Endotoxin Level</b>	<1.0 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

#### PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 200 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

#### BACKGROUND

Lumican is a 40 kDa member of the family of small leucine-rich repeat proteoglycans (SLRPs) and the class II subfamily (1). Human Lumican is synthesized as a 338 amino acid (aa) precursor that contains an 18 aa signal sequence and a 320 aa mature chain (SwissProt #: P51884). The mature chain contains a negatively charged N-terminal domain containing sulfated tyrosine and disulfide bonds, 12 leucine-rich repeats (LRRs), four potential sites of N-linked glycosylation, and a carboxyl terminal domain containing two conserved cysteines (1). Mature human Lumican is 88%, 87%, and 70% aa identical to mature mouse, rat, and chick Lumican, respectively. SLRPs constitute an important fraction of noncollagenous extracellular matrix proteins (ECM) proteins (1, 2). Lumican is expressed in a variety of tissues, including skin, artery, lung, cornea, kidney, bone, aorta, and articular cartilage (1). Lumican's role *in vivo* has been found using Lumican null mice. These mice have functional deficits including corneal opacity as well as skin and tendon fragility associated with disorganized and loosely packed collagen fibers (1, 3-6). The abnormal connective tissue phenotype seen in the Lumican null mice shows the importance of the role of Lumican in collagen fibrillogenesis (1). In addition to the control of collagen fibril assembly, Lumican has been shown to play a role in the regulation of cell proliferation (7, 8), migration (8, 9), and adhesion (9). Lumican's over-expression has been reported in carcinoid tumor, breast, colorectal, neuroendocrine, uterine cervical and pancreatic cancers (10).

#### References:

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