

DESCRIPTION

Species Reactivity	Human
Specificity	Detects recombinant human Lumican protein in Direct ELISA.
Source	Monoclonal Rat IgG _{2A} Clone # 1096907
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line, NS0-derived human Lumican Gln19-Asn338 Accession # P51884
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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:

1. Nikitovic, D. *et al.* (2008) *IUBMB Life* **60**:818.
2. Blochberger, T.C. *et al.* (1992) *J. Biol. Chem.* **267**:347.
3. Chakravarti, S. *et al.* (1998) *J. Cell Biol.* **141**:1277.
4. Chakravarti, S. *et al.* (2000) *Invest. Ophthalmol. Vis. Sci.* **41**:3365.
5. Jepsen, K.J. *et al.* (2002) *J. Biol. Chem.* **277**:35532.
6. Chakravarti, S. *et al.* (2003) *Invest. Ophthalmol. Vis. Sci.* **44**:2422.
7. Vuillemoz, B. *et al.* (2004) *Exp. Cell Res.* **296**:294.
8. Nikitovic, D. *et al.* (2008) *FEBS J.* **275**:350.
9. D'Onofrio, M.F. *et al.* (2008) *Biochem. Biophys. Res. Commun.* **365**:266.
10. Ishiwata, T. *et al.* (2007) *Oncol. Rep.* **18**:537.

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