

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 532 Excitation Wavelength: 534 nm Emission Wavelength: 553 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. Vuillermoz, 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.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.