

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Matrilin-3 in direct ELISAs and Western blots. In direct ELISAs and Western blots, 100% cross-reactivity with recombinant mouse Matrilin-3 is observed and no cross-reactivity with recombinant human (rh) Matrilin-2 or rhMatrilin-4 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 391934
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Matrilin-3 Asp29-Arg486 Accession # O15232
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% 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.

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

Matrilin-3 is a 50-60 kDa extracellular matrix protein that belongs to the superfamily of von Willebrand factor A (VWA) containing proteins. It is primarily expressed in cartilage and functions as a bridging component between proteins of the collagenous matrix (1-3). The human Matrilin-3 cDNA encodes a 486 amino acid (aa) precursor with a 28 aa signal sequence, an N-terminal VWA domain, four tandem EGF-like repeats, and a C-terminal coiled coil domain (4). The Matrilins differ in the number of VWA domains (one or two) and EGF-like repeats (one, three, four, or ten) they contain. Human Matrilin-3 shares 82% aa sequence identity with mouse Matrilin-3. Within the first VWA domain, human Matrilin-3 shares approximately 55% aa sequence identity with human Matrilin-1, -2, and -4. The coiled coil domain of Matrilin-3 mediates disulfide-linked homo-oligomerization, with tetramer formation being the most dominant (5-7). It can also assemble into hetero-oligomers with Matrilin-1 (5-7). Matrilin-3 is more plentiful than Matrilin-1 in the proliferative zone of the growth plate, whereas the reverse is true in the maturation zone (5). Matrilin-3 interacts directly with Collagen IX and COMP (8, 9). In the absence of Collagen IX, the expression of Matrilin-3 is unchanged, although it is retained inside chondrocytes and is not incorporated into the matrix (9). Matrilin-3 also associates with smaller cartilage fibrils independent of Collagen IX (9). Matrilin-3 knockout mice do not display any obvious abnormalities, suggesting that other molecules may compensate for the lack of Matrilin-3 (10). In contrast, intracellular retention of Matrilin-3 with particular point mutations in the VWA domain results in multiple epiphyseal dysplasia (11-13). A point mutation in the first EGF-like repeat which has been linked to hand osteoarthritis does not prevent Matrilin-3 secretion (13).

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.