Mouse Matrilin-3 Alexa Fluor® 405-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF3357V
100 µg

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Matrilin-3 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 50% cross-reactivity with recombinant human Matrilin-3 is observed and 5% cross-reactivity with recombinant mouse (rm)
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Matrilin-3 Ala35-Arg481 Accession # AAH71224
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 mouse Matrilin-3 cDNA encodes a 481 amino acid (aa) precursor with a 27 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. Mouse Matrilin-3 shares 82% aa sequence identity with human Matrilin-3. Within the first VWA domain, mouse Matrilin-3 shares approximately 51% aa sequence identity with mouse 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). Intracellular retention of Matrilin-3 also occurs with particular point mutations in the VWA domain that results in multiple epiphyseal dysplasia (11-13). In contrast, a point mutation in the first EGF-like repeat which has been linked to hand osteoarthritis does not prevent Matrilin-3 secretion (13). Matrilin-3 knockout mice do not display any obvious abnormalities, suggesting that other molecules may compensate for the lack of Matrilin-3 (10).

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