Mouse Matrilin-3 Biotinylated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: BAF3357

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Matrilin-3 in Western blots. In Western blots, approximately 50% cross-reactivity with recombinant human Matrilin-3 is observed and less than 5% cross-reactivity with recombinant mouse (rm) Matrilin-2 and rmMatrilin-4 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Matrilin-3 Ala35-Arg481 Accession # AAH71224
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

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.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Mouse Matrilin-3 (Catalog # 3357-MN)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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).

References:

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