Source
Mouse myeloma cell line, NS0-derived human Matrilin-2 protein
Arg24-Arg937, with a C-terminal 6-His tag
Accession #: AAH10444

N-terminal Sequence Analysis
Arg24

Predicted Molecular Mass
103 kDa

Specifications
SDS-PAGE
120 kDa, reducing conditions

Activity
Measured by its binding ability in a functional ELISA.
Im mobilized rat tail Collagen I at 10 µg/mL (100 µL/well) can bind rhMatrilin-2 with a linear range of 16-1,000 ng/mL.

Endotoxin Level
<0.10 EU per 1 µg of the protein by the LAL method.

Purity
>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation
Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

Preparation and Storage
Reconstitution
Reconstitute at 100 µg/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.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

Background
Matrilin-2 is an extracellular matrix protein that belongs to the superfamily of von Willebrand factor A (VWA) containing proteins. It is expressed in many tissues and functions as a bridging component between other matrix proteins (1-4). The human Matrilin-2 cDNA encodes a 956 amino acid (aa) precursor with a 23 aa signal sequence, two VWA domains separated by ten tandem EGF-like repeats, and a C-terminal coiled-coil domain (5, 6). Alternate splicing generates Isoform 2 (with an 18 aa deletion near the C-terminus), Isoform 3 (with a deletion of the fourth EGF-like repeat), and Isoform 4 (with a deletion of the first VWA and first EGF-like repeat). Human Matrilin-2 shares 87% and 84% aa sequence identity with mouse and canine Matrilin-2, respectively, and 27%, 22%, and 33% aa sequence identity with human Matrilin-1, -3, and -4, respectively. Matrilin-2 forms a variety of disulfide-linked oligomers via its coiled-coil domain (4, 7, 8, 9). It can assemble into homotrimers or heterotrimers with Matrilin-1 and/or Matrilin-4 (4, 7, 8) but has not been detected in heterotrimers containing Matrilin-3 (8). The VWA domains are thought to mediate Matrilin-Matrilin interactions as well as interactions with other matrix proteins such as Fibronectin, Collagen I, Fibrillin-2, and Laminin-1/Nidogen-1 complexes (7).

Matrilin-2 knockout mice do not display any obvious abnormalities, suggesting that the expression of other molecules can compensate for the lack of Matrilin-2 (10).

References: