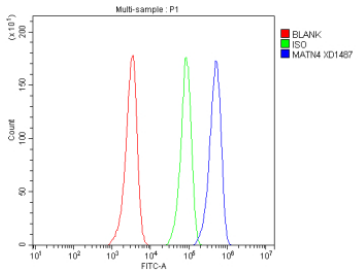
MATN4 Antibody / Matrilin 4 (FY13032)

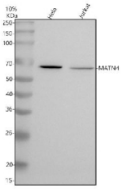
Catalog No.	Formulation	Size
FY13032	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O95460
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This MATN4 antibody is available for research use only.



Flow Cytometry analysis of HEL cells using anti-MATN4 antibody. Overlay histogram showing HEL cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-MATN4 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of Matrilin-4/MATN4 using anti-MATN4 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Hela whole cell lysates, Lane 2: human Jurkat whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MATN4 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. A specific band was detected for Matrilin-4/MATN4 at approximately 68 kDa. The expected molecular weight of Matrilin-4/MATN4 is at 68 kDa.

Description

MATN4 antibody detects Matrilin-4, a secreted extracellular matrix adapter protein that contributes to the structural organization of cartilage, tendon, and connective tissue matrices. The UniProt recommended name is Matrilin-4 (MATN4). This glycoprotein is a member of the matrilin family, which functions as extracellular linkers connecting collagen fibrils, proteoglycans, and other matrix molecules.

Functionally, MATN4 antibody identifies a 602-amino-acid modular protein containing von Willebrand factor A (vWFA) domains and coiled-coil motifs. MATN4 interacts with matrix components such as aggrecan, COMP, and collagens II and IX, facilitating the formation of filamentous networks that provide tensile strength and elasticity to connective tissues. It plays a structural and regulatory role in cartilage organization and tissue resilience under mechanical load.

The MATN4 gene is located on chromosome 20q13.12 and encodes a protein expressed primarily in skeletal tissues, including cartilage, intervertebral discs, and developing bone. Matrilin-4 functions as an adaptor molecule linking fibrillar collagens to proteoglycan aggregates, stabilizing the extracellular matrix architecture. During development, MATN4 expression is tightly regulated by transcription factors such as SOX9 and RUNX2 that control chondrogenesis and osteogenesis.

In physiology, MATN4 supports cartilage integrity and joint function. Reduced expression or mutations in matrilin family proteins can impair cartilage matrix stability, predisposing to osteoarthritis or connective tissue degeneration. MATN4 also contributes to tissue repair by enhancing chondrocyte adhesion and matrix assembly following injury. In cancer biology, altered MATN4 expression has been reported in breast, gastric, and pancreatic cancers, where it may influence tumor cell adhesion and invasion through modulation of the extracellular matrix microenvironment.

MATN4 antibody is widely used in extracellular matrix, musculoskeletal, and developmental biology research. It is suitable for immunohistochemistry, ELISA, and western blotting to detect Matrilin-4 expression and distribution. This antibody supports studies of cartilage formation, joint pathology, and matrix protein interactions. In biomaterials research, MATN4 serves as a reference marker for cartilage scaffold design and regenerative tissue engineering.

Structurally, Matrilin-4 consists of vWFA domains that mediate protein-protein binding and a coiled-coil domain enabling tetramer formation. It is secreted via the classical ER-Golgi pathway and undergoes glycosylation for structural stability. NSJ Bioreagents provides MATN4 antibody reagents validated for use in extracellular matrix organization, skeletal development, and tissue engineering research.

Application Notes

Optimal dilution of the MATN4 antibody should be determined by the researcher.

Immunogen

E.coli-derived human Matrilin-4/MATN4 recombinant protein (Position: E191-Q590) was used as the immunogen for the MATN4 antibody.

Storage

After reconstitution, the MATN4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.