ADAM12 Antibody / Disintegrin and metalloproteinase domain-containing protein 12 (FY13014)

Catalog No.	Formulation	Size
FY13014	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, Mouse, Rat
Format	Lyophilized
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	O43184
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This ADAM12 antibody is available for research use only.

Description

ADAM12 antibody detects Disintegrin and metalloproteinase domain-containing protein 12, a membrane-associated protease involved in cell adhesion, signaling, and extracellular matrix remodeling. The UniProt recommended name is Disintegrin and metalloproteinase domain-containing protein 12 (ADAM12). This enzyme plays essential roles in development, tissue repair, and tumor progression through its proteolytic and adhesive functions.

Functionally, ADAM12 antibody identifies a 907-amino-acid protein containing a metalloprotease domain, a disintegrin domain, a cysteine-rich region, and a transmembrane segment. ADAM12 catalyzes the cleavage of cell-surface proteins such as growth factors, cytokines, and adhesion molecules, regulating intercellular communication and matrix remodeling. It acts on substrates including insulin-like growth factor binding proteins (IGFBPs), shedding them from the membrane to modulate IGF signaling.

The ADAM12 gene is located on chromosome 10q26.2 and produces two major isoforms: the long transmembrane form

(ADAM12-L) and a shorter secreted variant (ADAM12-S). ADAM12 participates in tissue remodeling, myogenesis, and angiogenesis, and its expression increases during wound healing and fibrosis. It interacts with integrins via its disintegrin domain, influencing cell adhesion and migration. In skeletal muscle development, ADAM12 promotes myoblast fusion and differentiation by remodeling extracellular components.

In cancer biology, ADAM12 is frequently upregulated in breast, liver, and colorectal tumors, where it enhances growth factor signaling and tumor invasiveness. Elevated expression correlates with poor prognosis and therapy resistance. ADAM12 also participates in transforming growth factor-beta (TGF-beta) signaling and epithelial-to-mesenchymal transition (EMT), promoting metastatic potential. In cardiovascular tissues, ADAM12 contributes to vascular smooth muscle cell migration and atherosclerotic remodeling.

ADAM12 antibody is widely used in developmental biology, oncology, and extracellular matrix research. It is suitable for immunoblotting, immunohistochemistry, and zymography to assess ADAM12 expression, localization, and enzymatic activity. This antibody aids in studying protease-mediated signal activation, tissue remodeling, and tumor invasion. It also supports investigations into muscle differentiation and fibrotic disease mechanisms.

Structurally, ADAM12 features a catalytic zinc-binding motif within its metalloprotease domain and multiple adhesion modules that facilitate interaction with integrins and extracellular matrix proteins. Its activity is regulated by pro-domain removal, phosphorylation, and glycosylation. NSJ Bioreagents provides ADAM12 antibody reagents validated for use in protease biology, tumor signaling, and developmental research.

Application Notes

Optimal dilution of the ADAM12 antibody should be determined by the researcher.

Immunogen

E.coli-derived human ADAM12 recombinant protein (Position: V31-K476) was used as the immunogen for the ADAM12 antibody.

Storage

After reconstitution, the ADAM12 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.