

Human ADAM12 Protein (His Tag)

Catalog Number: 10896-H08H



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

ADAM12-OT1; CAR10; MCMP; MCMPMltna; MLTN; MLTNA; mKIAA4001; Mltna

Protein Construction:

A DNA sequence encoding the human ADAM12 isoform 1 (NP_003465.3) extracellular domain (Met 1-Ser 513) was fused with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 98 % as determined by SDS-PAGE

Bio Activity:

Measured by its binding ability in a functional ELISA. Immobilized human ADAM12-His (Cat: 10896-H08H) at 10 µg/ml (100 µl/well) can bind biotinylated mouse FLRG-His (Cat: 10591-M08H) with a linear range of 0.31-1.25 µg/ml.

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Arg 29

Molecular Mass:

The recombinant human ADAM12 consists of 496 amino acids and predicts a molecular mass of 55.2 kDa. As a result of glycosylation, rhADAM12 migrates as three bands with apparent molecular mass of 27, 55 and 72 kDa corresponding to the propeptide, the mature form and the pro form respectively in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

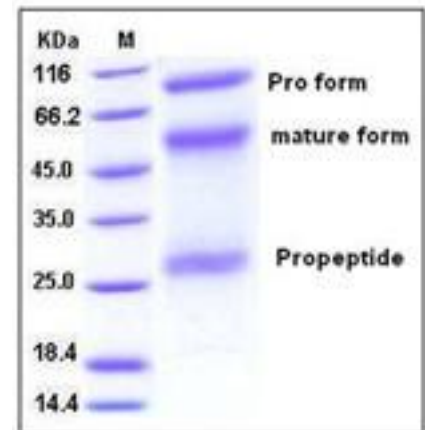
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

The ADAMs (a disintegrin and metalloprotease) comprise a family of multidomain proteins with metalloprotease, cell adhesion, and signaling activities. Human ADAM12, which is implicated in diseases such as cancer, is expressed in two splice forms, the transmembrane ADAM12-L and the shorter and soluble ADAM12-S. ADAM12, also known as and Meltrin alpha, is a member of the ADAM protein family, which contains one disintegrin domain, one EGF-like domain and one peptidase M12B domain. ADAM12 is synthesized as a zymogen with the prodomain keeping the metalloprotease inactive through a cysteine-switch mechanism. Maturation and activation of the protease involves the cleavage of the prodomain in the trans-Golgi or possibly at the cell surface by a furin-peptidase. It is a membrane-anchored metalloprotease, which has been implicated in activation-inactivation of growth factors that play an important role in wound healing, including heparin-binding epidermal growth factor (EGF)-like growth factor (HB-EGF) and IGF binding proteins. ADAM12 may also regulate cell-cell and cell-extracellular matrix contacts through interactions with cell surface receptors - integrins and syndecans - potentially influencing the actin cytoskeleton. Moreover, ADAM12 interacts with several cytoplasmic signaling and adaptor molecules through its intracellular domain, thereby directly transmitting signals to or from the cell interior. These ADAM12-mediated cellular effects appear to be critical events in both biological and pathological processes. In addition to protease activity, ADAM12 possesses cell binding and cell signaling properties. In many studies, ADAM12 overexpression has been correlated with disease, and ADAM12 has been shown to promote tumor growth and progression in cancer. On the other hand, protective effects of ADAM12 in disease have also been reported.

References

- 1.Wewer UM, *et al.* (2006) ADAM12 is a four-leafed clover: the excised prodomain remains bound to the mature enzyme. *J Biol Chem.* 281(14): 9418-22.
- 2.Kveiborg M, *et al.* (2008) Cellular roles of ADAM12 in health and disease. *Int J Biochem Cell Biol.* 40(9): 1685-702.
- 3.Harsha A, *et al.* (2008) ADAM12: a potential target for the treatment of chronic wounds. *J Mol Med.* 86(8): 961-9.

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Fax :+86-10-51029969 • Tel:+86-400-890-9989 • <http://www.sinobiological.com>