APB974Mu01 100μg

Active A Disintegrin And Metalloproteinase With Thrombospondin 7 (ADAMTS7)

Organism Species: *Mus musculus (Mouse)*

Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.

Host: *E. coli*

Residues: Lys226~Pro437

Tags: N-terminal His-tag

Purity: >90%

Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).

Buffer Formulation: PBS, pH7.4, containing 0.01% Sarcosyl, 5%Trehalose .

Original Concentration: 200μg/mL

Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 5.8

Predicted Molecular Mass: 27.7kDa

Accurate Molecular Mass: 27kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8ºC for one month.
Aliquot and store at -80ºC for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

KWVET LVVADSKMVE YHGQPQVESY
VLTIMNMVAG LFHDPSIGNP IHISIVRLII LEDEEKDLKI THHAEETLKN
FCRWQKNINI KGDDHPQHHD TAILLTRKDL CASMNQPCET LGLSHVSGLC
HPQLSCSVSE DTGMPLAFTV AHELGHSFGI QHDGTGNDCE SIGKRPFIMS
PQLLYDRGIP LTWSRCSREY ITRFLDRGWG LCLDDRP

[ACTIVITY]

A Disintegrin and Metalloproteinase with Thrombospondin 7（ADAMTS7）is a secreted zinc-dependent metalloproteinase belonging to the ADAMTS family, characterized by an N-terminal metalloproteinase domain, disintegrin-like module, and multiple thrombospondin type 1 repeats. Primarily expressed in cardiovascular tissues, skeletal muscle, and cartilage, ADAMTS7 exerts proteolytic functions by cleaving extracellular matrix (ECM) components, such as aggrecan and versican, thereby regulating ECM remodeling. Emerging evidence highlights its critical role in atherosclerosis: it promotes vascular smooth muscle cell (VSMC) migration and proliferation, accelerates plaque formation, and correlates with increased cardiovascular disease risk. Additionally, ADAMTS7 participates in osteoarthritis pathogenesis by degrading cartilage matrix proteins. As a multifunctional protease, it serves as a potential therapeutic target for cardiovascular and musculoskeletal disorders. ADAMTS7 interacts with COMP, likely forming a complex to modulate ECM homeostasis and tissue remodeling processes.Thus a functional ELISA assay was conducted to detect the interaction of recombinant mouse ADAMTS7 and recombinant rat COMP. Briefly, ADAMTS7 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to COMP-coated microtiter wells and incubated for 1h at

37℃. Wells were washed with PBST and incubated for 1h with anti-ADAMTS7 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant mouse ADAMTS7 and recombinant rat COMP was shown in Figure 1, the EC50 for this effect is 0.193μg/mL.

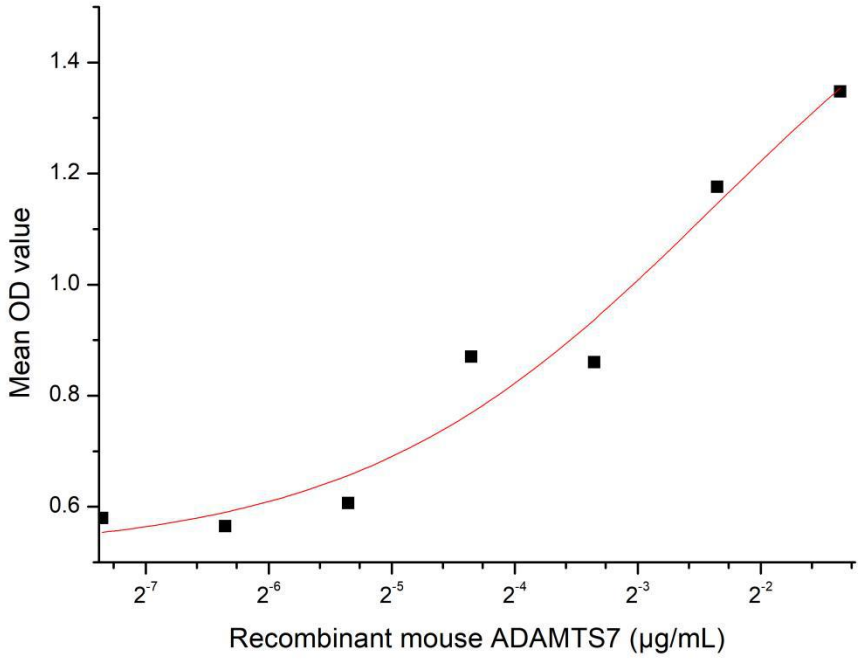

Figure 1. The binding activity of recombinant ADAMTS7 and COMP

[IDENTIFICATION]

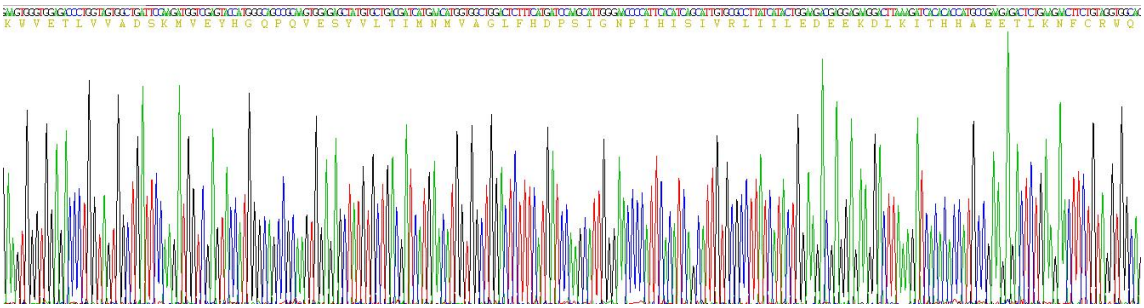

Figure 2. Gene Sequencing (extract)

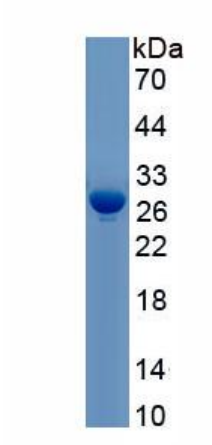

Figure 3. SDS-PAGE

Sample: Active recombinant ADAMTS7, Mouse

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.