

APA215Mu01 100µg
Active Collagen Type I Alpha 2 (COL1a2)
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: Val1109~Lys1372

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% SKL, 5%Trehalose .

Original Concentration: 200µg/mL

Applications: Cell culture; Activity Assays.

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

Predicted isoelectric point: 6.2

Predicted Molecular Mass: 33.0kDa

Accurate Molecular Mass: 33kDa 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 2-8°C for one month.

Aliquot and store at -80°C 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 37°C 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**]

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VS GGGYDFGFEG DFYRADQPRS QPSLRPKDYE VDATLKSLNN
QIETLLTPEG SRKNPARTCR DLRLSHPEWN SDYYWIDPNQ GCTMDAIKVY
CDFSTGETCI QAQPVNTPAK NSYSRAQANK HVWLGETING GSQFEYNVEG
VSSKEMATQL AFMRLLANRA SQNITYHCKN SIAYLDEETG SLNKAVLLQG
SNDVELVAEG NSRFTYSVLV DGCSKKTNEW GKTIIIEYKTN KPSRLPFLDI
APLDIGGADQ EFRVEVGPVC FK
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[**ACTIVITY**]

Collagen Type I Alpha 2 (COL1a2) is a major component of collagen type I found in skin, bone, muscle, tendons, ligaments and other connective tissues. The COL1a2 protein is essential for the assembly, secretion, and stability of collagen fibers, which are vital for tissue development and repair. Mutations in COL1A2 are associated with a variety of genetic disorders, such as osteogenesis imperfecta (dysplasia of the bones) and cutis laxa. These diseases are often accompanied by weak bones and loss of skin elasticity. Besides, Fibrillin 1 (FBN1) has been identified as an interactor of COL1a2, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant mouse COL1a2 and recombinant human FBN1. Briefly, COL1a2 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to FBN1-coated microtiter wells and incubated for 1h at 37 °C. Wells were washed with PBST and incubated for 1h with anti-COL1a2 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37 °C, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 °C. Finally, add 50 μ L stop solution to the wells and read at 450/630 nm immediately. The binding activity of recombinant mouse

COL1a2 and recombinant human FBN1 was shown in Figure 1, the EC50 for this effect is 2.53 ug/mL.

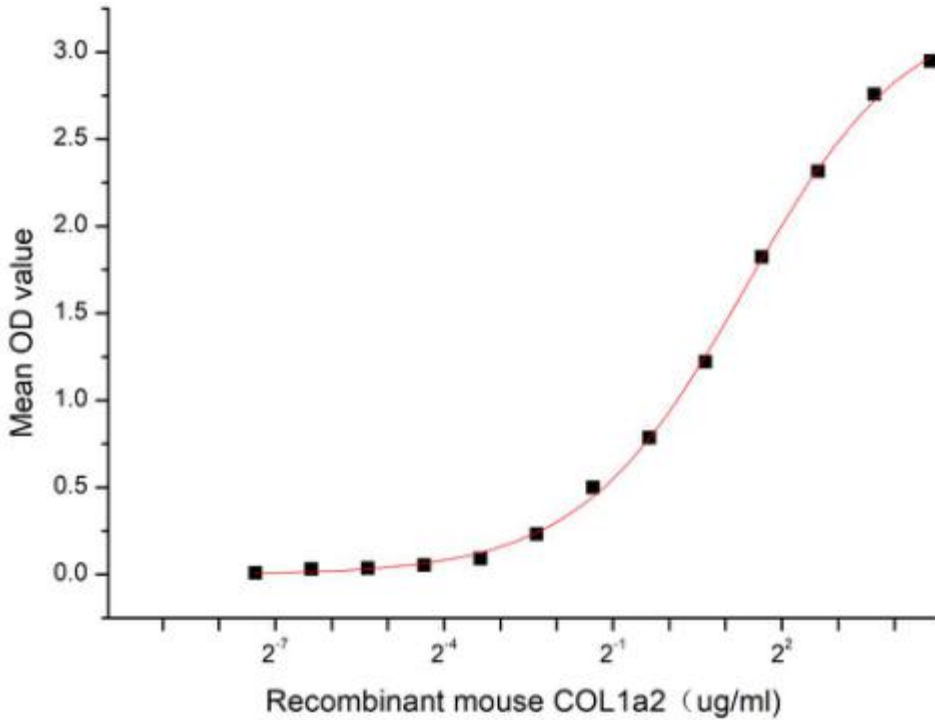


Figure 1. The binding activity of recombinant mouse COL1a2 and recombinant human FBN1

[IDENTIFICATION]

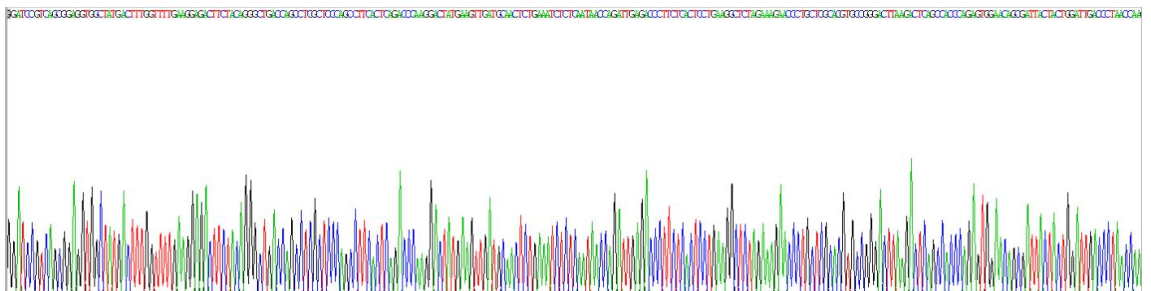


Figure 2. Gene Sequencing (extract)

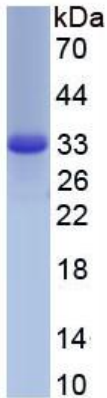


Figure 3. SDS-PAGE

Sample: Active recombinant COL1a2, 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.