APC158Hu61 100μg
Active Collagen Type XII (COL12)
Organism Species: *Homo sapiens* (Human)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.
Host: 293F cell
Residues: Pro2802~Gly3063
Tags: N-terminal His-tag
Purity: >90%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 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: 10.4
Predicted Molecular Mass: 27.1kDa
Accurate Molecular Mass: 45&50&70kDa as determined by SDS-PAGE reducing conditions.
Phenomenon explanation:
The possible reasons that the actual band size differs from the predicted are as follows:
1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[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]

PGEQGRQGM KGDAGEPGLP GRTGTPGLPG PPGPMGPPGD RGFTGKDGAM
GPRGPPGPPG SPGSPGVTGP SGKPGKPGDH GRPGPSGLKG EKGDRGDIAS
QNMMRAVARQ VCEQLISGQM NRFNQMLNQI PNDYQSSRNQ PGPPGPPGPP
GSAGARGEPG PGGRPGFPGT PGMQGPPGER GLPGEKGERG TGSSGPRGLP
GPPGPQGESR TGPPGSTGSR GPPGPPGRPG NSGIRGPPGP PGYCDSSQCA
SIPYNGQGYP GSG

[ACTIVITY]

Collagen Type XII (COL12), an extracellular matrix (ECM) protein, is a member of the fibrillar collagen family. COL12 is a minor collagen component found in various tissues, including cartilage, tendons, ligaments, blood vessel walls and corneas, it plays an important role in maintaining the structure and function of these tissues. It has been reported that the binding of COL12 and MMP12 is an important link in the remodeling and inflammation of ECM. Thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human COL12 and recombinant mouse MMP12. Briefly, COL12 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to MMP12-coated microtiter wells and incubated for 1h at 37℃. Wells were washed

with PBST and incubated for 1h with anti-COL12 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 450/630 nm immediately. The binding activity of recombinant human COL12 and recombinant mouse MMP12 was shown in Figure 1, and this effect was in a dose dependent manner.

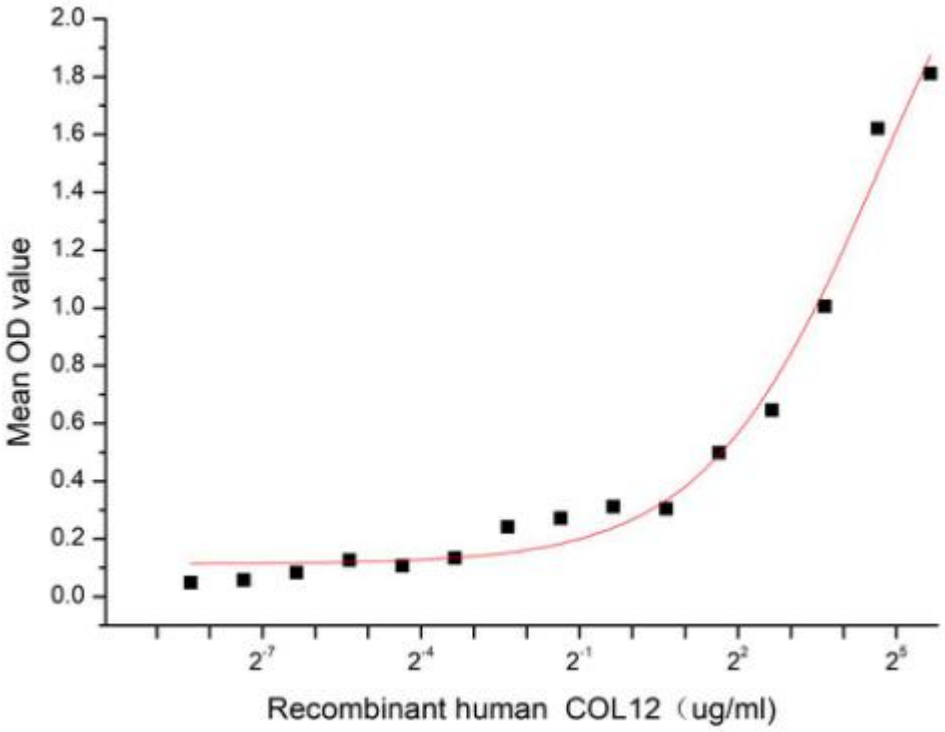

Figure 1. The binding activity of recombinant human COL12 and recombinant mouse MMP12

[IDENTIFICATION]

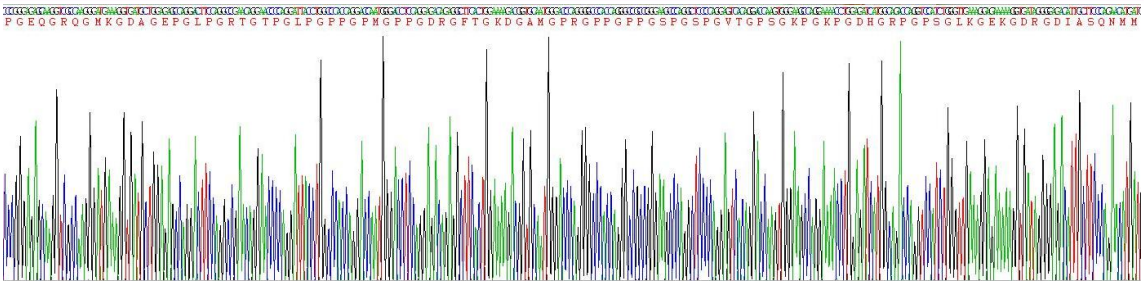

Figure 2. Gene Sequencing (extract)

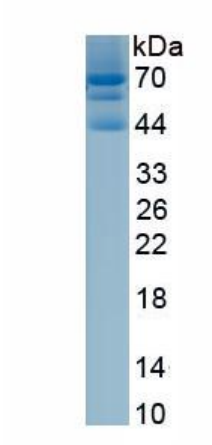

Figure 3. SDS-PAGE

Sample: Active recombinant COL12, Human

[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.