

APA149Hu01 100µg
Active Collagen Type IV Alpha 1 (COL4a1)
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: Prokaryotic expression.

Host: *E. coli*

Residues: His1444~Thr1669

Tags: N-terminal His-tag

Purity: >80%

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: 6.7

Predicted Molecular Mass: 31.7kDa

Accurate Molecular Mass: 31kDa 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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                                     HGFLVTR
HSQTIDDPQC PSGTKILYHG YSLLYVQGNE RAHGQDLGTA GSCLRKFSTM
PFLFCNINNV CNFASRNDYS YWLSTPEPMP MSMAPITGEN IRPFISRCVA
CEAPAMVMAV HSQTIQIPPC PSGWSSLWIG YSFVMHTSAG AEGSGQALAS
PGSCLEEFRS APFIECHGRG TCNYYANAYS FWLATIERSE MFKKPTPSTL
KAGELRTHVS RCQVCMRRT
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[ACTIVITY]

Collagen Type IV Alpha 1 (COL4a1), a secreted glycoprotein, is a member of the type IV collagen family. COL4a1 is the major structural component of glomerular basement membranes (GBM), forming a 'chicken-wire' meshwork together with laminins, proteoglycans and entactin/nidogen. It can inhibit angiogenesis and tumor formation, and specifically inhibit endothelial cell proliferation, migration and tubule formation. COL4A1 mutations can remain asymptomatic or cause devastating disease. Neonates and children may present with porencephaly, intracerebral hemorrhage, or hemiparesis, whereas adults tend to develop intracranial aneurysms or retinal arteriolar tortuosities. Glycoprotein VI (GP6) has been identified as an interactor of COL4a1, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human COL4a1 and recombinant human GP6. Briefly, COL4a1 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to GP6-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST and incubated for 1h with anti-COL4a1 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 µL stop solution to the wells and read at 450/630 nm immediately. The binding activity of recombinant human COL4a1 and recombinant human GP6 was shown in Figure 1, the EC50 for this effect is 0.05 ug/mL.

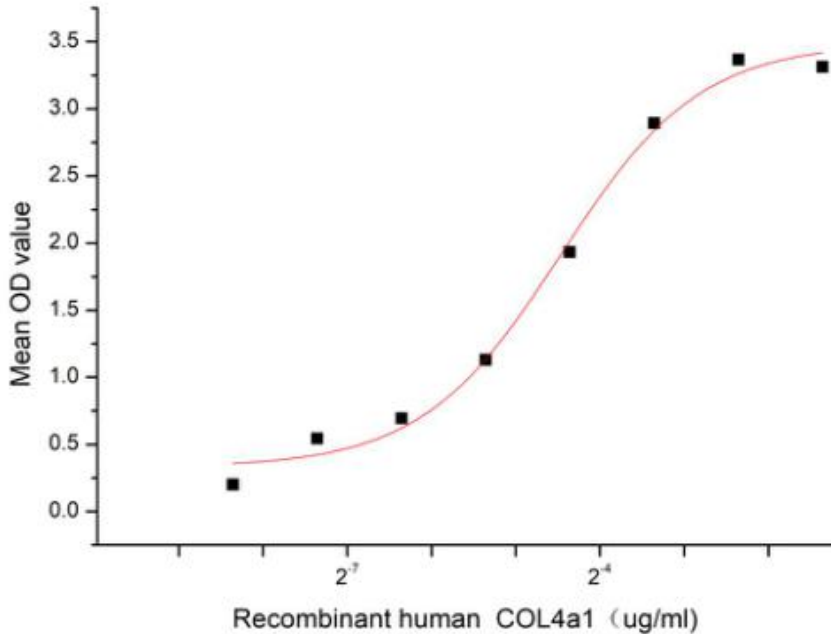


Figure 1. The binding activity of recombinant human COL4a1 and recombinant human GP6

[IDENTIFICATION]

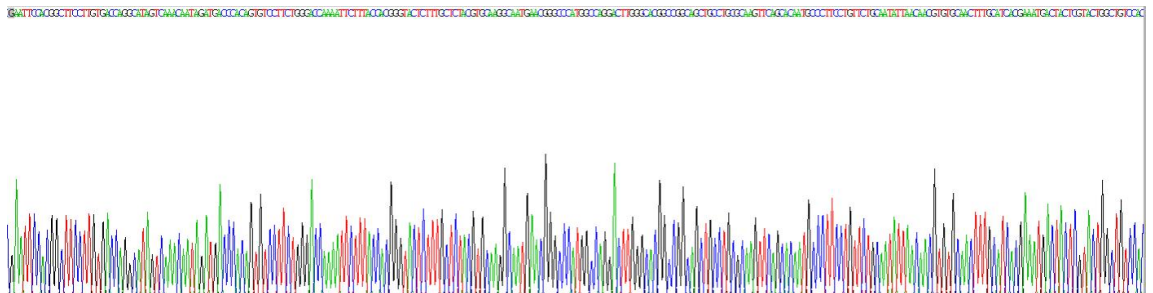


Figure 2. Gene Sequencing (extract)

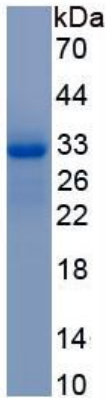


Figure 3. SDS-PAGE

Sample: Active recombinant COL4a1, 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.