

Collagen Type I Alpha 2 (COL1a2) Active Protein | COL1a2 active protein

Active Collagen Type I Alpha 2 (COL1a2)

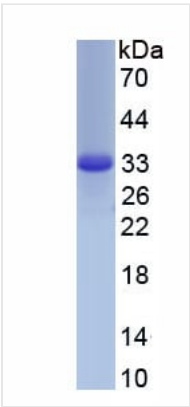
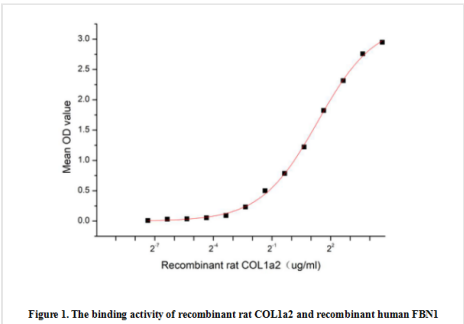
CATALOG # AAA161716	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Collagen Type I Alpha 2 (COL1a2); Active Collagen Type I Alpha 2 (COL1a2); Collagen Type I Alpha 2; COL1-A2; OI4; Collagen Alpha-2(I)chain; osteogenesis imperfecta type IV; Collagen Of Skin; Tendon And bone; Alpha-2 Chain4; COL1a2 active protein

PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	Greater than 90% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Val1109~Ly s1372
Applicable Applications for COL1a2 active protein	Activity Assay, Cell Culture
Species	Rat
Expression System	Prokaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	5.8
Research Area	Metabolic pathway, Bone metabolism
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months



SDS-PAGE
Figure. SDS-PAGE

Bioactivity
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 rat COL1a2 and recombinant human FBN1. Briefly, COL1a2 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 ul were then transferred to FBN1-coated microtiter wells and incubated for 1h at 37 degree 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 degree C, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 degree C. Finally, add 50 uL stop solution to the wells and read at 450/630 nm immediately. The binding activity of recombinant rat COL1a2 and recombinant human FBN1 was shown in Figure 1, the EC50 for this effect is 2.53 ug/mL.

ADDITIONAL INFORMATION

Product Categories/Family for COL1a2 active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	16758080
NCBI GeneID	84352
NCBI Accession #	NP_445808.1
NCBI GenBank Nucleotide #	NM_053356.1
UniProt Accession #	P02466; Q9R1E8
Molecular Weight	129,564 Da
NCBI Official Full Name	collagen alpha-2(I) chain
NCBI Official Synonym Full Names	collagen, type I, alpha 2
NCBI Official Symbol	Col1a2
NCBI Protein Information	collagen alpha-2(I) chain; collagen alpha-2(I) chain; alpha-2 type I collagen; procollagen, type I, alpha 2
UniProt Protein Name	Collagen alpha-2(I) chain
UniProt Gene Name	Col1a2
UniProt Entry Name	CO1A2_RAT

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

