

Recombinant Human Collagen II alpha 1/COL2A1 Protein

Catalog No.: RP02991 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Human	1280	P02458-2

Tags

N-His

Synonyms

ANFH; AOM; COL11A3; SEDC; STL1

Product Information

Source	Purification
HEK293 cells	> 95% by SDS-PAGE.

Endotoxin

<1EU/μg

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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Background

COL2A1 is the alpha-1 chain of type II collagen which is a fibrillar collagen found in cartilage and the vitreous humor of the eye. Mutations in this protein are associated with achondrogenesis, chondrodysplasia, early onset familial osteoarthritis, SED congenita, Langer-Saldino achondrogenesis, Kniest dysplasia, Stickler syndrome type I, and spondyloepimetaphyseal dysplasia Strudwick type. In addition, defects in processing chondrocalcin, a calcium binding protein that is the C-propeptide of this collagen molecule, are also associated with chondrodysplasia. There are two transcripts identified for this gene. Type II collagen is specific for cartilaginous tissues. Thus COL2A1 is essential for the normal embryonic development of the skeleton, for linear growth and for the ability of cartilage to resist compressive forces. The regulation of COL2A1, likely results from a balance of both positive and negative proteins. The inhibition of COL2A1 transcription following treatment of chick sternal chondrocytes with growth factors was accompanied by increased EF1 expression. Overexpression of EF1 in differentiated chondrocytes resulted in decreased expression of a reporter construct containing a collagen II promoter/enhancer insert.

Basic Information

Description

Recombinant Human Collagen II alpha 1/COL2A1 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Asp1242-Leu1487) of human Collagen II alpha 1/COL2A1 (Accession #NP_001835.3) fused with a 6×His tag at the N-terminus.

Bio-Activity

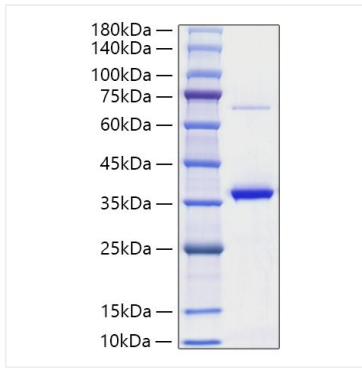
Storage

Store the lyophilized protein at -20°C to -80°C for 12 months.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Mouse Midkine Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 35-40 kDa.