

Recombinant Human Collagen I alpha 1/COL1A1 Protein

Catalog No.: RP01842 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Human	1277	P02452

Tags

C-His

Synonyms

OI1; OI2; OI3; OI4; EDSC; CAFYD;
EDSARTH1; Collagen I alpha 1; COL1A1

Product Information

Source	Purification
HEK293 cells	

Endotoxin
< 0.1 EU/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

Type I collagen is the most abundant structural protein of connective tissues such as skin, bone and tendon. It is synthesized as a procollagen molecule which is characterized by a 300 nm triple helical domain flanked by globular N- and C-terminal propeptides. The triple helical domain contains Gly-Xaa-Yaa triplets where Xaa and Yaa are frequently proline and hydroxyproline, respectively. The non-helical propeptides are removed by procollagen N- and C-proteinase activities so that the mature triple helices can self-assemble into collagen fibrils that provide tensile strength to tissues. Type I collagen is a heterotrimer that consists of two alpha 1(I) chains and one alpha 2(I) chain, although homotrimers consisting of three identical alpha 1(I) chains have also been described. This recombinant mini pro-alpha 1(I) collagen consists of a shortened alpha 1(I) chain with following domain structure from N- to C-terminus: N-propeptide, N-telopeptide, the 33 most N-terminal Gly-Xaa-Yaa repeats, the 33 most C-terminal Gly-Xaa-Yaa repeats, C-telopeptide and C-propeptide. The preparation contains a mixture of the full-length molecule, pN collagen I(alpha 1) and the C-terminal propeptide. This truncated pro-alpha 1(I) collagen is a substrate for procollagen N-proteinase and procollagen C-proteinase.

Basic Information

Description

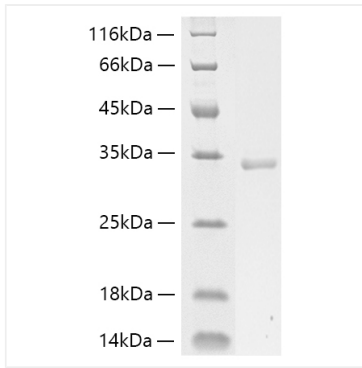
Recombinant Human Collagen I alpha 1/COL1A1 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Asp1219-Leu1464) of human Collagen I alpha 1/COL1A1 (Accession #NP_000079.2) fused with and his tag at the C-terminus.

Bio-Activity

Storage

Store the lyophilized protein at -20°C to -80°C for long term. 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 Human Collagen I alpha 1/COL1A1 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 25-35 kDa.