

# Recombinant Human Collagen alpha-1(I)chain/COL1A1 protein (TRX,His tag)



Catalog Number:PDEH100132

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

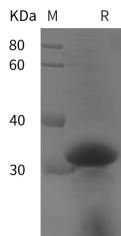
## Description

<b>Synonyms</b>	Collagen alpha-1(I) chain;Alpha-1 type I collagen;COL1A1;COL1A1
<b>Species</b>	Human
<b>Expression Host</b>	E.coli
<b>Sequence</b>	Glu 1021-Gly 1109
<b>Accession</b>	P02452
<b>Calculated Molecular Weight</b>	29.7 kDa
<b>Observed molecular weight</b>	32 kDa
<b>Tag</b>	N-Trx-His

## Properties

<b>Purity</b>	> 95 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	Please contact us for more information.
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

## Data



> 95 % as determined by reducing SDS-PAGE.

## 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,

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N<sup>?</sup>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.

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