

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Collagen I $\alpha 1$ in ELISAs. In direct ELISA, no cross-reactivity with human COL-2A1, COL-3A1 or COL-4A1 was observed.
Source	Monoclonal Mouse IgG ₁ Clone # 816103
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived human Collagen I $\alpha 1$ Gln23-Lys277 + Gly1094-Leu1464 Accession # P02452
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

ELISA Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 (1). 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 (1). 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 (2). 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.

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