

DESCRIPTION

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| Species Reactivity | Human |
| Specificity | Detects recombinant human COL1 α 1 protein in Direct ELISA. |
| Source | Recombinant Monoclonal Rabbit IgG Clone # 3158C |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | Chinese Hamster Ovary-Derived recombinant human COL-1A1 Gln23-Lys277, Gly1094-Leu1464 Accession # P02452 |
| Conjugate | Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm |
| Formulation | Supplied 0.2 mg/mL in a saline solution containing BSA and 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.

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| Western Blot | Optimal dilution of this antibody should be experimentally determined. |
| Immunohistochemistry | Optimal dilution of this antibody should be experimentally determined. |

PREPARATION AND STORAGE

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| 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 α 1(I) chains and one α 2(I) chain, although homotrimers consisting of three identical α 1(I) chains have also been described (2). This recombinant mini pro- α 1(I) collagen consists of a shortened α 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(α 1) and the C-terminal propeptide. This truncated pro- α 1(I) collagen is a substrate for procollagen N-proteinase and procollagen C-proteinase.

References:

1. Canty, E.G. *et al.* (2005) J. Cell Sci. **118**:1341.
2. Han, S. *et al.* (2008) J. Mol. Biol. **383**:122.

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