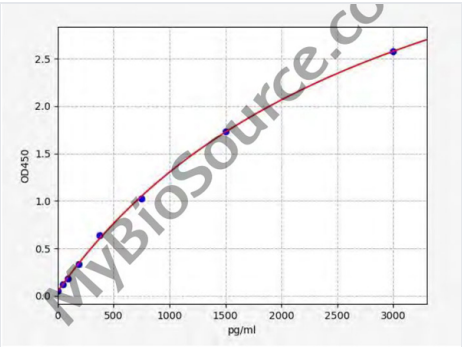
# Collagen Type II (COL2) ELISA Kit for Human

## PRODUCT OVERVIEW

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| **Product Name** | Collagen Type II (COL2), ELISA Kit |
| **Full Product Name** | Human Collagen Type II ELISA Kit |
| **Product Gene Name** | COL2 elisa kit |
| **Product Synonym Names** | COL2 (Collagen Type II)/Chondrocalcin/COL2A1/SEDC/Alpha-1 type II collagen/ANFH/AOM/cartilage collagen/COL11A3/Collagen 2/collagen alpha-1 (II) chain/collagen II; alpha-1 polypeptide/collagen type 2 |
| **Species Reactivity** | Human |
| **Assay Type** | Sandwich |
| **Samples** | Serum, plasma, tissue homogenates and other biological fluids |
| **Detection Range** | 46.875-3000pg/ml |
| **Sensitivity** | 28.125pg/ml |
| **Specificity** | This assay has high sensitivity and excellent specificity for detection of COL2. No significant cross-reactivity or interference between COL2 and analogues was observed. |
| **Preparation and Storage** | Store entire kit at 2-8C for short-term. For longer-term, please store the microplate & standard at -20C, while the remaining reagents can be stored at 2-8C |
| **Inter-assay Precision** | CV<10% |
| **Intra-assay Precision** | CV<8% |
| **Molecular Weight** | 29,781 Da |
| **OMIM** | 108300 |
| **ISO Certification** | Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory. |
| **Related Product Information for COL2 elisa kit** | Principle of the Assay: This kit was based on sandwich enzyme-linked immune-sorbent assay technology. Capture antibody was pre-coated onto 96-well plates. And the biotin conjugated antibody was used as detection antibodies. The standards, test samples and biotin conjugated detection antibody were added to the wells subsequently, and washed with wash buffer. HRP-Streptavidin was added and unbound conjugates were washed away with wash buffer. TMB substrates were used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the target amount of sample captured in plate. Read the O.D. absorbance at 450nm in a microplate reader, and then the concentration of target can be calculated. |
| **Other Notes** | Small volumes of COL2 elisa kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |
| **Searchable Terms for COL2 purchase** | MBS765936 is a ready-to-use microwell, strip plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Collagen Type II (COL2) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing COL2. The ELISA analytical biochemical technique of the MBS765936 kit is based on COL2 antibody-COL2 antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect COL2 antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, COL2. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%). |




**Typical Testing Data/Standard Curve (for reference only) of COL2 elisa kit**

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for COL2. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 119578374 |
| **NCBI GeneID** | 1280 |
| **NCBI Accession #** | EAW57970.1 |
| **UniProt Secondary Accession #** | Q12985; Q14009; Q14044; Q14045; Q14046; Q14047; Q14056; Q14058; Q16672; Q1JQ82; A6NGA0 |
| **UniProt Related Accession #** | P02458 |
| **NCBI Official Full Name** | collagen, type II, alpha 1 (primary osteoarthritis, spondyloepiphyseal dysplasia, congenital), isoform CRA_e |
| **NCBI Official Synonym Full Names** | collagen type II alpha 1 |
| **NCBI Official Symbol** | COL2A1 |
| **NCBI Official Synonym Symbols** | AOM; ANFH; SEDC; STL1; COL11A3 |
| **UniProt Protein Name** | Collagen alpha-1(II) chain |
| **UniProt Synonym Protein Names** | Alpha-1 type II collagen |
| **Protein Family** | Zinc finger protein CONSTANS |
| **UniProt Gene Name** | COL2A1 |
| **UniProt Entry Name** | CO2A1_HUMAN |
| **NCBI Protein Information** | collagen alpha-1(II) chain |
| **NCBI Summary for COL2** | This gene encodes the alpha-1 chain of type II collagen, a fibrillar collagen found in cartilage and the vitreous humor of the eye. Mutations in this gene 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. [provided by RefSeq, Jul 2008] |

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| **UniProt Comments for COL2** | COL2A1: the alpha-1 chain of type II collagen, an extra-cellular matrix protein found in cartilage and the vitreous humor of the eye. It is essential for the normal embryonic development of the skeleton, for linear growth and for the ability of cartilage to resist compressive forces. Chondrocalcin is the calcium binding C-propeptide of this collagen molecule. Defects 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. There are two transcripts identified for this gene. Belongs to the fibrillar collagen family. 3 isoforms of the human protein are produced by alternative splicing.<br><br>Protein type: Extracellular matrix; Secreted; Secreted, signal peptide<br><br>Chromosomal Location of Human Ortholog: 12q13.11<br><br>Cellular Component: basement membrane; collagen type II; endoplasmic reticulum lumen; extracellular matrix; extracellular region; extracellular space<br><br>Molecular Function: extracellular matrix structural constituent conferring tensile strength; identical protein binding; metal ion binding; platelet-derived growth factor binding<br><br>Biological Process: axon guidance; cartilage condensation; cartilage development; central nervous system development; chondrocyte differentiation; collagen catabolic process; collagen fibril organization; endochondral ossification; extracellular matrix disassembly; extracellular matrix organization and biogenesis; heart morphogenesis; inner ear morphogenesis; limb bud formation; notochord development; palate development; proteoglycan metabolic process; regulation of gene expression; regulation of immune response; sensory perception of sound; skeletal development; tissue homeostasis; visual perception<br><br>Disease: Achondrogenesis, Type Ii; Avascular Necrosis Of Femoral Head, Primary; Czech Dysplasia; Epiphyseal Dysplasia, Multiple, With Myopia And Conductive Deafness; Kniest Dysplasia; Legg-calve-perthes Disease; Osteoarthritis With Mild Chondrodysplasia; Otospondylomegaepiphyseal Dysplasia; Platyspondylic Lethal Skeletal Dysplasia, Torrance Type; Spondyloepimetaphyseal Dysplasia, Strudwick Type; Spondyloepiphyseal Dysplasia Congenita; Spondyloepiphyseal Dysplasia, Stanescu Type; Spondyloperipheral Dysplasia; Stickler Syndrome, Type I; Stickler Syndrome, Type I, Nonsyndromic Ocular |
| **Research Articles on COL2** | **1.** c.2224G>A (p.Gly687Ser) is a novel mutation of COL2A1 associated with spondyloepiphyseal dysplasia congenital. |
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