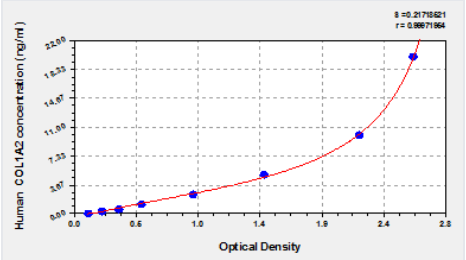
Collagen, Type I, Alpha 2 (COL1A2) ELISA Kit for Human

PRODUCT OVERVIEW

Product Name	collagen, type I, alpha 2 (COL1A2), ELISA Kit
Full Product Name	Human Collagen alpha-2 (I) chain, COL1A2 ELISA Kit
Product Gene Name	COL1A2 elisa kit
Product Synonym Names	Human Collagen alpha-2 (I) chain (COL1A2) ELISA kit; OI4; alpha 2 type I collagen; alpha 2 (I) -collagen; collagen I; alpha-2 polypeptide; collagen of skin; tendon and bone; alpha-2 chain; type I procollagen; collagen; type I; alpha 2
Species Reactivity	Human
Assay Type	Sandwich
Samples	Serum, plasma, tissue homogenates
Detection Range	0.312 ng/ml-20 ng/ml
Sensitivity	0.078 ng/ml
Specificity	This assay has high sensitivity and excellent specificity for detection of Human COL1A2. No significant cross-reactivity or interference between Human COL1A2 and analogues was observed.
Preparation and Storage	Unopened test kits should be stored at 2 to 8 degree C upon receipt. Please refer to pdf manual for further storage instructions.
Intra-assay Precision	Intra-assay Precision (Precision within an assay): CV% is less than 8% Three samples of known concentration were tested twenty times on one plate to assess. Inter-assay Precision (Precision between assays): CV% is less than 10% Three samples of known concentration were tested in twenty assays to assess.
Molecular Weight	129,314 Da
OMIM	259420
3D Structure	ModBase 3D Structure for P08123
Detection Wavelength	450 nm
Sample Volume	50-100ul
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for COL1A2 elisa kit	**Principle of the Assay:** This assay employs the quantitative sandwich enzyme immunoassay technique. Antibody specific for COL1A2 has been pre-coated onto a microplate. Standards and samples are pipetted into the wells and any COL1A2 present is bound by the immobilized antibody. After removing any unbound substances, a biotin-conjugated antibody specific for COL1A2 is added to the wells. After washing, avidin conjugated Horseradish Peroxidase (HRP) is added to the wells. Following a wash to remove any unbound avidin-enzyme reagent, a substrate solution is added to the wells and color develops in proportion to the amount of COL1A2 bound in the initial step. The color development is stopped and the intensity of the color is measured.
Other Notes	Small volumes of COL1A2 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 COL1A2 purchase	MBS929468 is a ready-to-use microwell, strip plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the collagen, type I, alpha 2 (COL1A2) 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 COL1A2. The ELISA analytical biochemical technique of the MBS929468 kit is based on COL1A2 antibody-COL1A2 antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect COL1A2 antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, COL1A2. 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 COL1A2 elisa kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for COL1A2. It may not necessarily be applicable to this product.

NCBI GI #	48762934
NCBI GeneID	1278
NCBI Accession #	NP_000080.2
UniProt Primary Accession #	P08123
UniProt Secondary Accession #	P02464; Q13897; Q13997; Q13998; Q14038; Q14057; Q15177; Q15947; Q16480; Q16511; Q7Z5S6
UniProt Related Accession #	P08123
GenBank Nucleotide #	NM_000089.3
NCBI Official Full Name	collagen alpha-2(I) chain
NCBI Official Synonym Full Names	collagen, type I, alpha 2
NCBI Official Symbol	COL1A2
NCBI Official Synonym Symbols	OI4
UniProt Protein Name	Collagen alpha-2(I) chain
UniProt Synonym Protein Names	Alpha-2 type I collagen
Protein Family	Collagen
UniProt Gene Name	COL1A2
UniProt Entry Name	CO1A2_HUMAN
NCBI Protein Information	collagen alpha-2(I) chain; collagen alpha-2(I) chain; type I procollagen; alpha 2(I)-collagen; alpha-2 type I collagen; collagen I, alpha-2 polypeptide; collagen of skin, tendon and bone, alpha-2 chain
NCBI Summary for COL1A2	This gene encodes the pro-alpha2 chain of type I collagen whose triple helix comprises two alpha1 chains and one alpha2 chain. Type I is a fibril-forming collagen found in most connective tissues and is abundant in bone, cornea, dermis and tendon. Mutations in this gene are associated with osteogenesis imperfecta types I-IV, Ehlers-Danlos syndrome type VIIB, recessive Ehlers-Danlos syndrome Classical type, idiopathic osteoporosis, and atypical Marfan syndrome. Symptoms associated with mutations in this gene, however, tend to be less severe than mutations in the gene for the alpha1 chain of type I collagen (COL1A1) reflecting the different role of alpha2 chains in matrix integrity. Three transcripts, resulting from the use of alternate polyadenylation signals, have been identified for this gene. [provided by R. Dalgleish, Feb 2008]

UniProt Comments for COL1A2	COL1A2: Type I collagen is a member of group I collagen (fibrillar forming collagen). Defects in COL1A2 are the cause of Ehlers-Danlos syndrome type 7B (EDS7B). EDS is a connective tissue disorder characterized by hyperextensible skin, atrophic cutaneous scars due to tissue fragility and joint hyperlaxity. EDS7B is marked by bilateral congenital hip dislocation, hyperlaxity of the joints, and recurrent partial dislocations. Defects in COL1A2 are a cause of osteogenesis imperfecta type 1 (OI1). A dominantly inherited connective tissue disorder characterized by bone fragility and blue sclerae. Osteogenesis imperfecta type 1 is non-deforming with normal height or mild short stature, and no dentinogenesis imperfecta. Defects in COL1A2 are a cause of osteogenesis imperfecta type 2 (OI2); also known as osteogenesis imperfecta congenita (OIC) or lethal perinatal. A connective tissue disorder characterized by bone fragility, with many perinatal fractures, severe bowing of long bones, undermineralization, and death in the perinatal period due to respiratory insufficiency. Defects in COL1A2 are the cause of Ehlers-Danlos syndrome autosomal recessive cardiac valvular form (EDSCV). A connective tissue disorder characterized by hyperextensible skin, atrophic cutaneous scars due to tissue fragility and joint hyperlaxity. In addition to joint laxity, skin hyperextensibility and friability, and abnormal scar formation, patients have mitral valve prolapse and insufficiency, mitral regurgitation, and aortic insufficiency. Defects in COL1A2 are a cause of osteogenesis imperfecta type 3 (OI3). A connective tissue disorder characterized by progressively deforming bones, very short stature, a triangular face, severe scoliosis, grayish sclera, and dentinogenesis imperfecta. Defects in COL1A2 are a cause of osteogenesis imperfecta type 4 (OI4); also known as osteogenesis imperfecta with normal sclerae. A connective tissue disorder characterized by moderately short stature, mild to moderate scoliosis, grayish or white sclera and dentinogenesis imperfecta. A chromosomal aberration involving COL1A2 may be a cause of lipoblastomas, which are benign tumors resulting from transformation of adipocytes, usually diagnosed in children. Translocation t(7;8)(p22;q13) with PLAG1. Belongs to the fibrillar collagen family. Protein type: Secreted, signal peptide; Secreted Chromosomal Location of Human Ortholog: 7q22.1 Cellular Component: extracellular matrix; extracellular space; endoplasmic reticulum lumen; collagen type I; extracellular region Molecular Function: protein binding, bridging; identical protein binding; protein binding; platelet-derived growth factor binding; extracellular matrix structural constituent; metal ion binding; SMAD binding Biological Process: blood vessel development; platelet activation; receptor-mediated endocytosis; extracellular matrix organization and biogenesis; collagen fibril organization; skin morphogenesis; Rho protein signal transduction; odontogenesis; extracellular matrix disassembly; collagen catabolic process; regulation of blood pressure; transforming growth factor beta receptor signaling pathway; blood coagulation; skeletal development; leukocyte migration Disease: Ehlers-danlos Syndrome, Type Vii, Autosomal Dominant; Osteogenesis Imperfecta, Type Ii; Ehlers-danlos Syndrome, Autosomal Recessive, Cardiac Valvular Form; Osteogenesis Imperfecta, Type Iii; Osteoporosis; Osteogenesis Imperfecta, Type Iv
Research Articles on COL1A2	**1.** this study highlights an essential role for Sin3B in IFN-c induced COL1A2 repression in smooth muscle cells.
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