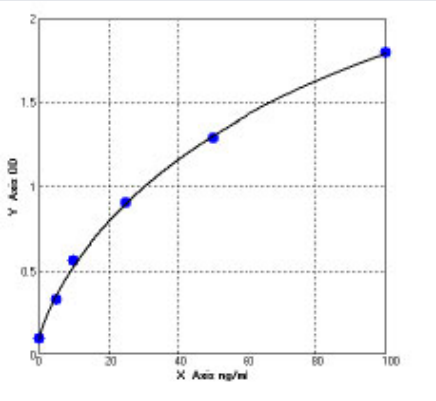
Collagen Type X (COL10) ELISA Kit for Human

PRODUCT OVERVIEW

Product Name	Collagen Type X (COL10), ELISA Kit
Full Product Name	Human Collagen Type X ELISA Kit
Product Gene Name	COL10 elisa kit
Species Reactivity	Human
Assay Type	Competitive or Sandwich
Samples	Serum, plasma, cell culture supernatants, body fluid and tissue homogenate
Sensitivity	1.0 ng/mL
Specificity	This assay has high sensitivity and excellent specificity for detection of COL10. No significant cross-reactivity or interference between COL10 and analogues was observed. NOTE: Limited by current skills and knowledge, it is impossible for us to complete the cross-reactivity detection between COL10 and all the analogues, therefore, cross reaction may still exist in some cases.
Preparation and Storage	Store all reagents at 2-8 degree C.
Molecular Weight	66,158 Da
OMIM	gene 156500
Sample Preparation	We suggest pre-experimenting with neat (undiluted) samples, 1:2 or 1:4 dilutions. Please avoid diluting your samples more than 1:10 as it would exceed the dilution limit set for this kit. If the expected concentration of the target is beyond the detection range of the kit, please contact our technical support team
Product Categories/Family for COL10 elisa kit	Cell Biology
ISO Certification	Manufactured in an ISO 13485:2016 Certified Laboratory.
Related Product Information for COL10 elisa kit	Intended Uses: This COL10 ELISA kit is a 1.5 hour solid-phase ELISA designed for the quantitative determination of Human COL10. This ELISA kit for research use only! Principle of the Assay: COL10 ELISA kit applies the quantitative sandwich enzyme immunoassay technique. The microtiter plate has been pre-coated with a monoclonal antibody specific for COL10. Standards or samples are then added to the microtiter plate wells and COL10 if present, will bind to the antibody pre-coated wells. In order to quantitatively determine the amount of COL10 present in the sample, a standardized preparation of horseradish peroxidase (HRP)-conjugated polyclonal antibody, specific for COL10 are added to each well to "sandwich" the COL10 immobilized on the plate. The microtiter plate undergoes incubation, and then the wells are thoroughly washed to remove all unbound components. Next, substrate solutions are added to each well. The enzyme (HRP) and substrate are allowed to react over a short incubation period. Only those wells that contain COL10 and enzyme-conjugated antibody will exhibit a change in color. The enzyme-substrate reaction is terminated by addition of a sulphuric acid solution and the color change is measured spectrophotometrically at a wavelength of 450 nm. A standard curve is plotted relating the intensity of the color (O.D.) to the concentration of standards. The COL10 concentration in each sample is interpolated from this standard curve.
Other Notes	Small volumes of COL10 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 COL10 purchase	MBS722660 is a ready-to-use microwell, strip plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Collagen Type X (COL10) 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 COL10. The ELISA analytical biochemical technique of the MBS722660 kit is based on COL10 antibody-COL10 antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect COL10 antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, COL10. 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 COL10 elisa kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for COL10. It may not necessarily be applicable to this product.

NCBI GI #	18105032
NCBI GeneID	1300
NCBI Accession #	NP_000484.2
UniProt Secondary Accession #	A1L4P2
UniProt Related Accession #	Q03692
GenBank Nucleotide #	NM_000493.3
NCBI Official Full Name	collagen alpha-1(X) chain
NCBI Official Synonym Full Names	collagen, type X, alpha 1
NCBI Official Symbol	COL10A1
UniProt Protein Name	Collagen alpha-1(X) chain
Protein Family	Zinc finger protein CONSTANS
UniProt Gene Name	COL10A1
UniProt Entry Name	COAA1_HUMAN
NCBI Protein Information	collagen alpha-1(X) chain; collagen alpha-1(X) chain; collagen X, alpha-1 polypeptide; Schmid metaphyseal chondrodysplasia
NCBI Summary for COL10	This gene encodes the alpha chain of type X collagen, a short chain collagen expressed by hypertrophic chondrocytes during endochondral ossification. Unlike type VIII collagen, the other short chain collagen, type X collagen is a homotrimer. Mutations in this gene are associated with Schmid type metaphyseal chondrodysplasia (SMCD) and Japanese type spondylometaphyseal dysplasia (SMD). [provided by RefSeq, Jul 2008]

UniProt Comments for COL10	COL10A1: Type X collagen is a product of hypertrophic chondrocytes and has been localized to presumptive mineralization zones of hyaline cartilage. Defects in COL10A1 are the cause of Schmid type metaphyseal chondrodysplasia (SMCD). SMCD is a dominantly inherited disorder of the osseous skeleton. The cardinal features of the phenotype are mild short stature, coxa vara and a waddling gait. Radiography usually shows sclerosis of the ribs, flaring of the metaphyses, and a wide irregular growth plate, especially of the knees. A variant form of SMCD is spondylometaphyseal dysplasia Japanese type. It is characterized by spinal involvement comprising mild platyspondyly, vertebral body abnormalities, and end-plate irregularity. Protein type: Secreted; Secreted, signal peptide Chromosomal Location of Human Ortholog: 6q21-q22 Cellular Component: proteinaceous extracellular matrix; collagen; endoplasmic reticulum lumen; extracellular region; cell cortex Molecular Function: metal ion binding Biological Process: extracellular matrix disassembly; collagen catabolic process; extracellular matrix organization and biogenesis; cartilage development; skeletal development; endochondral ossification Disease: Metaphyseal Chondrodysplasia, Schmid Type
Research Articles on COL10	**1.** The results show that COL10A1 is a tumor biomarker upregulated in a wide variety of tumors including those of the breast, colon, bladder, stomach, esophagus, lung, testis, ovary and pancreas.
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