Cross Linked C-Telopeptide of Type II Collagen (CTX-II) ELISA Kit for Human

PRODUCT OVERVIEW

Product Name	Cross Linked C-Telopeptide Of Type II Collagen (CTX-II), ELISA Kit
Full Product Name	Human Cross Linked C-Telopeptide Of Type II Collagen (CTX-II) ELISA Kit
Product Gene Name	CTX-II elisa kit
Product Synonym Names	CTX-II; CTX2
Species Reactivity	Human
Assay Type	Sandwich
Samples	Serum, Plasma, Other biological fluids
Specificity	This assay has high sensitivity and excellent specificity for detection of Human CTX-II. No significant cross-reactivity or interference between Human CTX-II and analogues was observed.
Preparation and Storage	Store at 2-8 degree C.
Molecular Weight	29,781 Da
OMIM	108300
Sample Volume	1-200 uL
Precision	Intra-assay Precision (Precision within an assay) Three samples of known concentration were tested twenty times on one plate to assess intra-assay precision. Inter-assay Precision (Precision between assays) Three samples of known concentration were tested in forty separate assays to assess inter-assay precision. CV (%) = SD/meanX100 Intra-Assay: CV Inter-Assay: CV
Detection Wavelength	450 nm
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for CTX-II elisa kit	Principle of the Assay: This assay employs a two-site sandwich ELISA to quantitate CTX-II in samples. An antibody specific for CTX-II has been pre-coated onto a microplate. Standards and samples are pipetted into the wells and anyCTX-II present is bound by the immobilized antibody. After removing any unbound substances, a biotin-conjugated antibody specific for CTX-II is added to the wells. After washing, Streptavidin 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 CTX-II bound in the initial step. The color development is stopped and the intensity of the color is measured.
Other Notes	Small volumes of CTX-II 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 CTX-II purchase	MBS284620 is a ready-to-use microwell, strip-or-full plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Cross Linked C-Telopeptide Of Type II Collagen (CTX-II) 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 CTX-II. The ELISA analytical biochemical technique of the MBS284620 kit is based on CTX-II antibody-CTX-II antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect CTX-II antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, CTX-II. 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(%).

ADDITIONAL DETAILS

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

NCBI GI #	124056489
NCBI GeneID	1280
NCBI Accession #	P02458.3
UniProt Secondary Accession #	Q12985; Q14009; Q14044; Q14045; Q14046; Q14047; Q14056; Q14058; Q16672; Q1JQ82; A6NGA0
UniProt Related Accession #	P02458
NCBI Official Full Name	Collagen alpha-1(II) chain
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
UniProt Gene Name	COL2A1
UniProt Entry Name	CO2A1_HUMAN
NCBI Protein Information	collagen alpha-1(II) chain
NCBI Summary for CTX-II	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]

UniProt Comments for CTX-II	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. Protein type: Secreted; Secreted, signal peptide; Extracellular matrix Chromosomal Location of Human Ortholog: 12q13.11 Cellular Component: basement membrane; collagen type II; endoplasmic reticulum lumen; extracellular matrix; extracellular region; extracellular space Molecular Function: extracellular matrix structural constituent conferring tensile strength; identical protein binding; metal ion binding; platelet-derived growth factor binding 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 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 CTX-II	**1.** Six new unrelated patients with R989C mutation in COL2A1 gene associated with a severe phenotype of spondyloepiphyseal dysplasia congenita.
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