abcam

Product datasheet

Human COMP ELISA Kit ab213764

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Overview

Product name Human COMP ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
1	16	1.02ng/ml	0.052	5.1%
2	16	3.12ng/ml	0.131	4.2%
3	16	6.19ng/ml	0.254	4.1%

Inter-assay

Sample	n	Mean	SD	CV%
1	24	1.13ng/ml	0.07	6.2%
2	24	3.08ng/ml	0.166	5.4%
3	24	6.23ng/ml	0.324	5.2%

Sample type Cell culture supernatant, Serum, Cell Lysate, Hep Plasma, EDTA Plasma

Assay type Sandwich (quantitative)

Sensitivity < 10 pg/ml

Range 156 pg/ml - 10000 pg/ml

Assay time 3h 30m

Assay duration Multiple steps standard assay

Species reactivity **Reacts with:** Human

Product overview The Human COMP Enzyme-Linked Immunosorbent Assay (ELISA) kit (ab213764) is designed for the quantitative measurement of Human COMP in cell culture supernatants, cell lysates, tissue homogenates, serum and plasma (heparin, EDTA).

The ELISA kit is based on standard sandwich enzyme-linked immunosorbent assay technology.

A polyclonal antibody from goat specific for COMP has been pre-coated onto 96-well plates. Standards (Expression system for standard: NSO; Immunogen sequence: Q21-A757) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for COMP is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex is added and unbound conjugates are washed away with PBS or TBS buffer. HRP substrate TMB is used to visualize HRP enzymatic reaction. TMB is 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 Human COMP amount of sample captured in plate.

Notes

Cartilage oligomeric matrix protein is a protein that in humans is encoded by the COMP gene. The sequences of rat and bovine COMP indicate that it is a member of the thrombospondin gene family. By Southern blot analysis of a somatic cell hybrid DNA panel and by isotopic *in situ* hybridization, human COMP gene was mapped to 19p13.1, and the murine COMP gene was mapped to the central region of mouse chromosome 8 by use of an interspecific backcross mapping panel. COMP is a marker of cartilage turnover.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions

Store at -20°C. Please refer to protocols.

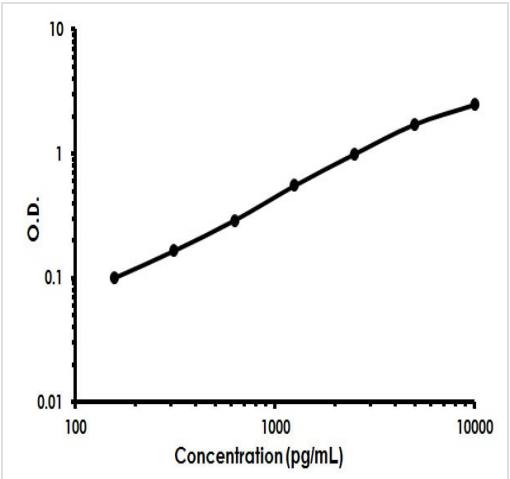
Components	Identifier	1 x 96 tests	1 x 96 tests
ABC Diluent Buffer	Blue Cap	1 x 12ml	1 x 12ml
Adhesive Plate Seal		4 units	4 units
Antibody Diluent Buffer	Green Cap	1 x 12ml	1 x 12ml
Anti-Human COMP coated Microplate (12 x 8 wells)		1 unit	1 unit
Avidin-Biotin-Peroxidase Complex (ABC)		1 x 100µl	1 x 100µl
Biotinylated anti- Human COMP antibody		1 x 100µl	1 x 100µl
Lyophilized recombinant Human COMP standard		2 vials	2 vials
Sample Diluent Buffer	Green Cap	1 x 30ml	1 x 30ml
TMB Color Developing Agent	Black Cap	1 x 10ml	1 x 10ml
TMB Stop Solution	Yellow Cap	1 x 10ml	1 x 10ml
Wash Buffer (25X)		1 x 20ml	1 x 20ml

Function

May play a role in the structural integrity of cartilage via its interaction with other extracellular matrix proteins such as the collagens and fibronectin. Can mediate the interaction of chondrocytes with the cartilage extracellular matrix through interaction with cell surface integrin receptors. Could play a role in the pathogenesis of osteoarthritis. Potent suppressor of apoptosis in both primary chondrocytes and transformed cells. Suppresses apoptosis by blocking the activation of caspase-3 and by inducing the IAP family of survival proteins (BIRC3, BIRC2, BIRC5 and XIAP). Essential for maintaining a vascular smooth muscle cells (VSMCs)

	contractile/differentiated phenotype under physiological and pathological stimuli. Maintains this phenotype of VSMCs by interacting with ITGA7.
Tissue specificity	Abundantly expressed in the chondrocyte extracellular matrix, and is also found in bone, tendon, ligament and synovium and blood vessels. Increased amounts are produced during late stages of osteoarthritis in the area adjacent to the main defect.
Involvement in disease	Defects in COMP are the cause of multiple epiphyseal dysplasia type 1 (EDM1) [MIM:132400]. EDM is a generalized skeletal dysplasia associated with significant morbidity. Joint pain, joint deformity, waddling gait, and short stature are the main clinical signs and symptoms. EDM is broadly categorized into the more severe Fairbank and the milder Ribbing types. Defects in COMP are the cause of pseudoachondroplasia (PSACH) [MIM:177170]. PSAC is a dominantly inherited chondrodysplasia characterized by short stature and early-onset osteoarthrosis. PSACH is more severe than EDM1 and is recognized in early childhood.
Sequence similarities	Belongs to the thrombospondin family. Contains 4 EGF-like domains. Contains 1 TSP C-terminal (TSPC) domain. Contains 8 TSP type-3 repeats.
Developmental stage	Present during the earliest stages of limb maturation and is later found in regions where the joints develop.
Domain	The cell attachment motif mediates the attachment to chondrocytes. It mediates the induction of both the IAP family of survival proteins and the antiapoptotic response. The TSP C-terminal domain mediates interaction with FN1 and ACAN.
Cellular localization	Secreted > extracellular space > extracellular matrix.

Images



Human COMP ELISA Kit (ab213764) Standard Curve.

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