

Human Total MMP-1 ELISA Kit | MMP-1 elisa kit

Total MMP-1 (Human) OmniKine ELISA Kit

CATALOG #
AAA315757

REACTIVITY
Human

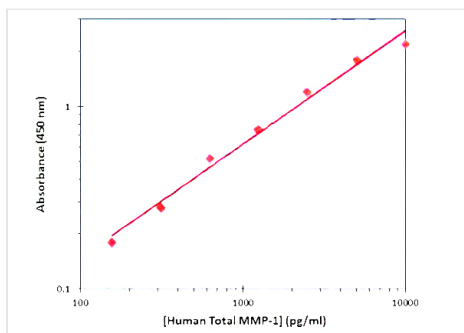
PRODUCT SYNONYMS

Total MMP-1; Total MMP-1 (Human) OmniKine ELISA Kit; Interstitial collagenase; Fibroblast collagenase; Matrix metalloproteinase-1; CLG; MMP-1 elisa kit

PRODUCT SPECIFICATIONS

Reactivity	Human
Specificity	The OmniKine™ Human MMP-1 ELISA is capable of recognizing both recombinant and naturally produced Human MMP-1 proteins. The antigens listed below were tested at 50 ng/ml and did not exhibit significant cross reactivity or interference.
Form/Format	12 x 8-Well Microstrips
Sequence Length	469
Assay Type	Quantitative Sandwich
Samples	Cell Lysates, Sera and Plasma
Sensitivity	157-10000 pg/ml
Detection Method	Colorimetric 450 nm
Subtype	None
Preparation and Storage	Store entire kit at 4 degree C until use.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for MMP-1 elisa kit	Background: Proteins of the matrix metalloproteinase (MMP) family are involved in the breakdown of extracellular matrix in normal physiological processes, such as embryonic development, reproduction, and tissue remodeling, as well as in disease processes, such as arthritis and metastasis. Most MMP's are secreted as inactive proproteins which are activated when cleaved by extracellular proteinases. This gene encodes a secreted enzyme which breaks down the interstitial collagens, types I, II, and III. The gene is part of a cluster of MMP genes which localize to chromosome 11q22.3.. Alternatively spliced transcript variants encoding different isoforms have been identified. Human total MMP-1 cleaves collagens of types I, II, and III at one site in the helical domain and also cleaves collagens of types VII and X. In case of HIV infection, MMP-1 interacts and cleaves the secreted viral Tat protein, leading to a decrease in neuronal Tat's mediated neurotoxicity. Cleavage of the triple helix of collagen occurs at about threequarters of the length of the molecule from the N-terminus, at 775-Gly- -Ile- 776 in the alpha-1(I) chain. The proteinase cleaves synthetic substrates and alpha-macroglobulins at bonds where P1' is a hydrophobic residue. There are two distinct domains in this protein: the catalytic Nterminal, and the C-terminal which is involved in substrate specificity and in binding TIMP (tissue inhibitor of metalloproteinases). The conserved cysteine present in the cysteine-switch motif binds the catalytic zinc ion, thus inhibiting the enzyme. The dissociation of the cysteine from the zinc ion upon the activation-peptide release activates the enzyme. MMP-1 undergoes autolytic cleavage to two major forms (22 kDa and 27 kDa). A minor form (25 kDa) is the glycosylated form of the 22 kDa form. The 27 kDa form has no activity while the 22/25 kDa form can act as activator for collagenase. Principle of the Assay: The OmniKine™ Human Total MMP-1 ELISA Kit contains the components necessary for quantitative determination of natural or recombinant Human Total MMP-1 concentrations within any experimental sample including cell lysates, serum and plasma. This particular immunoassay utilizes the quantitative technique of a "Sandwich" EnzymeLinked Immunosorbent Assay (ELISA) where the target protein (antigen) is bound in a "sandwich" format by the primary capture antibodies coated to each well-bottom and the secondary detection antibodies added subsequently by the investigator. The capture antibodies coated to the bottom of each well are specific for a particular epitope on Human Total MMP-1 while the user-added detection antibodies bind to epitopes on the captured target protein. Amid each step of the procedure, a series of wash steps must be performed to ensure the elimination of non-specific binding between proteins to other proteins or to the solid phase. After incubation and "sandwiching" of the target antigen, a peroxidase enzyme is conjugated to the constant heavy chain of the secondary antibody (either covalently or via Avidin/Streptavidin-Biotin interactions), allowing for a colorimetric reaction to ensue upon substrate addition. When the substrate TMB (3, 3', 5, 5'-Tetramethylbenzidine) is added, the reaction catalyzed by peroxidase yields a blue color that is representative of the antigen concentration. Upon sufficient color development, the reaction can be terminated through addition of Stop Solution (2 N Sulfuric Acid) where the color of the solution will turn yellow. The absorbance of each well can then be read by a spectrophotometer, allowing for generation of a standard curve and subsequent determination of protein concentration.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	4505215
NCBI GeneID	4312
NCBI Accession #	NP_002412.1
NCBI GenBank Nucleotide #	NM_002421.3
UniProt Accession #	P03956; P08156
Molecular Weight	54,007 Da
NCBI Official Full Name	interstitial collagenase isoform 1 preproprotein
NCBI Official Synonym Full Names	matrix metallopeptidase 1
NCBI Official Symbol	MMP1
NCBI Official Synonym Symbols	CLG; CLGN
NCBI Protein Information	interstitial collagenase
UniProt Protein Name	Interstitial collagenase
UniProt Gene Name	MMP1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/human-elisa-kits/total-mmp-1/315757>