Human matrix metalloproteinase 3/stromelysin 1(MMP3/STR1) ELISA kit

Product Code	CSB-E04677h
Abbreviation	MMP3
Protein Biological Process 1	Tumor marker
Target Name	matrix metallopeptidase 3 (stromelysin 1, progelatinase)
Uniprot No.	P08254
Alias	CHDS6, MGC126102, MGC126103, MGC126104, MMP-3, SL-1, STMY, STMY1, STR1, matrix metalloproteinase 3|matrix metalloproteinase 3 (stromelysin 1, progelatinase)|proteoglycanase|transin-1
Product Type	ELISA Kit
Immunogen Species	Homo sapiens (Human)
Protein Biological Process 3	Collagen degradation
Sample Types	serum, plasma, tissue homogenates
Detection Range	0.156 ng/mL-10 ng/mL
Sensitivity	0.054 ng/mL
Assay Time	1-5h
Sample Volume	50-100ul
Detection Wavelength	450 nm
Lead Time	3-5 working days after you place the order, and it takes another 3-5 days for delivery via DHL or FedEx.
Research Area	Cancer
Gene Names	MMP3
Tag Info	quantitative
Protein Description	Sandwich
Description	This Human MMP3 ELISA Kit is suitable for qualitatively determining MMP3 concentrations in multiple biological fluids, including human serum, plasma, and tissue homogenates in vitro. MMP3, a zinc-dependent protease, has broad substrate specificity and can degrade fibronectin, laminin, elastin, collagen IV, and proteoglycans of the extracellular matrix (ECM) in the systemic organs. MMP3 is involved in normal extracellular matrix turnover during embryonic development, organ morphogenesis, and wound healing, and in tissue destruction associated with aneurysms, cancer, arthritis, and heart failure. It is also associated with the pathogenesis of neurodegenerative diseases including

Alzheimer's disease (AD) and Parkinson's disease (PD). It has also been reported the important role of MMP3 as a signaling molecule in the neuronal apoptotic process as well as in neuroinflammation.

This kit uses the quantitative sandwich-based enzyme immunoassay technique to measure the amount of human MMP3 in the sample. Standards and samples are respectively added to the microplate wells pre-coated with an anti-human MMP3 antibody. Biotin-labeled MMP3 antibody, HRP-avidin, and TMB substrate are pipped into the microplate in turn. The capture antibody pre-coated on the plate captures the MMP3 in the rat samples. MMP3 binds to the biotinylated anti-human MMP3 monoclonal antibody. And the biotin on the biotinylated anti-human MMP3 monoclonal antibody binds to the avidin on the enzyme label, forming immune complexes. The color renders blue after the addition of the TMB substrate. The addition of the stop solution into the wells immediately turns the blue into yellow. The concentration of MMP3 in the samples is directly proportional to OD (450nm). Each manufactured lot of this ELISA kit was quality tested for criteria such as sensitivity, specificity, precision, linearity, and lot-to-lot consistency.

Target Details

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 an enzyme which degrades fibronectin, laminin, collagens III, IV, IX, and X, and cartilage proteoglycans. The enzyme is thought to be involved in wound repair, progression of atherosclerosis, and tumor initiation. The gene is part of a cluster of MMP genes which localize to chromosome 11q22.3.

Product Precision

Intra-assay Precision (Precision within an assay): CV%<8%

Three samples of known concentration were tested twenty times on one plate to assess.

Inter-assay Precision (Precision between assays): CV%<10%

Three samples of known concentration were tested in twenty assays to assess.

	Intra-Assay Precision			Inter-Assay Precision		
Sample	1	2	3	1	2	3
n	20	20	20	20	20	20
Mean(ng/ml)	1.004	1.097	1.042	1.002	0.997	1.228
SD	0.035	0.036	0.027	0.045	0.048	0.046
CV(%)	3.814	3.799	2.888	4.908	5.246	4.606

Linearity

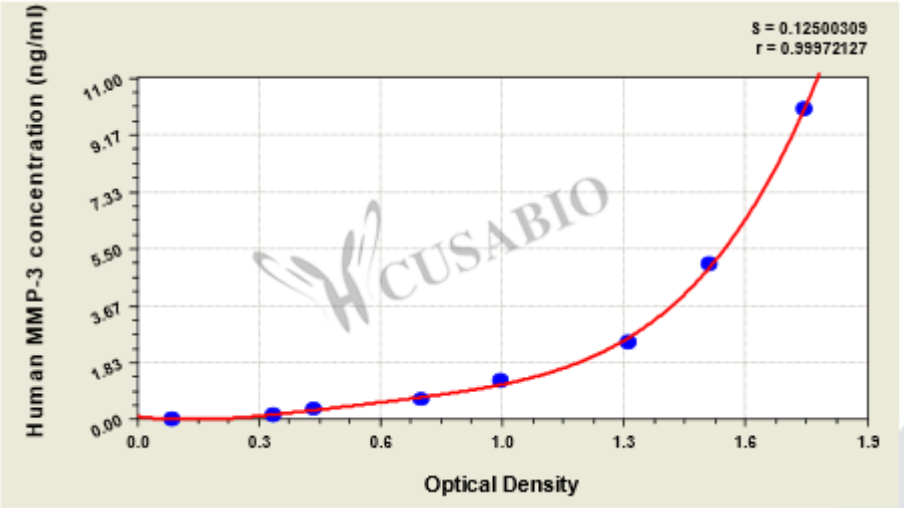
To assess the linearity of the assay, samples were spiked with high

concentrations of human MMP-3 in various matrices and diluted with the Sample Diluent to produce samples with values within the dynamic range of the assay.

	Sample	Serum(n=4)
1:2	Average %	83
	Range %	80-99
1:4	Average %	87
	Range %	81-101
1:8	Average %	91
	Range %	85-108
1:16	Average %	95
	Range %	92-111

Typical

These standard curves are provided for demonstration only. A standard curve should be generated for each set of samples assayed.



ng/ml	OD1	OD2	Average	corrected
0	0.099	0.106	0.103	
0.156	0.381	0.350	0.366	0.263
0.313	0.44	0.497	0.470	0.368
0.625	0.706	0.795	0.751	0.648
1.25	1.000	0.914	0.957	0.855
2.5	1.302	1.277	1.290	1.187
5	1.531	1.476	1.504	1.401
10	1.709	1.790	1.750	1.647

Msds

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