Product Information Sheet

Human MMP-7 ELISA Kit

Catalog No. EK0463

Size 96T

Range 156pg/ml-10,000pg/ml

Sensitivity < 6 pg/ml

Specificity

No detectable cross-reactivity with any other cytokine.

Storage

Store at 4℃ for frequent use, at -20℃ for infrequent use.

Avoid multiple freeze-thaw cycles (Shipped with wet ice.)

Expiration

Four months at 4℃ and eight months at -20℃.

Application

For quantitative detection of human MMP-7 in sera, plasma, body fluids, tissue lysates or cell culture supernates.

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Principle

Human MMP-7 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. Human MMP-7 specific-specific polyclonal antibodies were precoated onto 96-well plates. The human specific detection polyclonal antibodies were biotinylated. The test samples and biotinylated detection antibodies were added to the wells subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was 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 MMP-7 amount of sample captured in plate.

Kit Components

1. Lyophilized recombinant human MMP-7 standard: 10ng/tube×2.
2. One 96-well plate precoated with anti- human MMP-7 antibody.
3. Sample diluent buffer: 30 ml
4. Biotinylated anti- human MMP-7 antibody : 130µl, dilution 1:100.
5. Antibody diluent buffer: 12ml.
6. Avidin-Biotin-Peroxidase Complex (ABC) : 130µl, dilution 1:100.
7. ABC diluent buffer: 12ml.
8. TMB color developing agent: 10ml.
9. TMB stop solution: 10ml.

Material Required But Not Provided

1. Microplate reader in standard size.
2. Automated plate washer.
3. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection.
4. Clean tubes and Eppendorf tubes.
5. Washing buffer (neutral PBS or TBS).

   Preparation of 0.01M **TBS:** Add 1.2g Tris, 8.5g Nacl; 450µl of purified acetic acid or 700µl of concentrated hydrochloric acid to 1000ml H_2O and adjust pH to 7.2-7.6. Finally, adjust the total volume to 1L.

   Preparation of 0.01 M **PBS:** Add 8.5g sodium chloride, 1.4g Na_2HPO_4 and 0.2g NaH_2PO_4 to 1000ml distilled water and adjust pH to 7.2-7.6. Finally, adjust the total volume to 1L.

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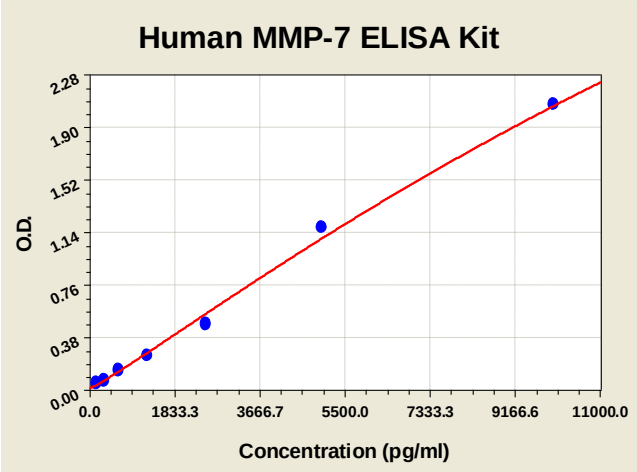
Notice for Application of Kit

1. Before using Kit, spin tubes and bring down all components to bottom of tube.
2. Duplicate well assay was recommended for both standard and sample testing.
3. Don't let 96-well plate dry, dry plate will inactivate active components on plate.
4. In order to avoid marginal effect of plate incubation due to temperature difference (reaction may be stronger in the marginal wells), it is suggested that the diluted ABC and TMB solution will be pre-warmed in 37℃ for 30 min before using.

Human MMP-7 ELISA Kit-1X96 Well Plate Image



Background

Matrix metalloproteinase-7 (MMP-7) previously called putative metalloproteinase I (PUMP1) or matrilysin. The PUMP1 gene has been identified through studies of collagenase-related connective-tissue-degrading metalloproteinases produced by human tumors. The PUMP I protein has 267 amino acids and is significantly shorter than stromelysin or collagenase (477 and 469 amino acids, respectively). Matrix metalloproteinases play a crucial role in tumor invasion and metastasis.[1] Matrilysin, a member of the matrix metalloproteinase family, is structurally different from the other matrix metalloproteinases by virtue of the absence of a conserved COOH-terminal protein domain. In addition, matrilysin mRNA is regulated in a specific and distinct manner in normal and malignant tissues.[2] Matrilysin has been shown to correlate with nodal or distant metastasis in colorectal carcinomas; however, its implication in early invasive colorectal carcinomas has not been determined.[1] Matrilysin is also a mediator of pulmonary fibrosis and a potential therapeutic target.[3] The standard product used in this kit is recombinant human MMP-7, consisting of 250 amino acids with the molecular mass of 28KDa. The detected MMP-7 includes zymogen and active enzyme.

Reference

1. Masaki, T.; Matsuoka, H.; Sugiyama, M.; Abe, N.; Goto, A.; Sakamoto, A.; Atomi, Y. Matrilysin (MMP-7) as a significant determinant of malignant potential of early invasive colorectal carcinomas. *Brit. J. Cancer* 84: 1317-1321, 2001.
2. Gaire, M.; Magbanua, Z.; McDonnell, S.; McNeil, L.; Lovett, D. H.; Matrisian, L. M. Structure and expression of the human gene for the matrix metalloproteinase matrilysin. *J. Biol. Chem.* 269: 2032-2040, 1994.
3. Zuo, F.; Kaminski, N.; Eugui, E.; Allard, J.; Yakhini, Z.; Ben-Dor, A.; Lollini, L.; Morris, D.; Kim, Y.; DeLustro, B.; Sheppard, D.; Pardo, A.; Selman, M.; Heller, R. A. Gene expression analysis reveals matrilysin as a key regulator of pulmonary fibrosis in mice and humans. *Proc. Nat. Acad. Sci.* 99: 6292-6297, 2002.