



Product Information Sheet

Mouse Cathepsin B ELISA Kit

| | |
|--------------------|----------------------|
| Catalog No. | EK0671 |
| Size | 96T |
| Range | 156pg/ml-10,000pg/ml |
| Sensitivity | < 5pg/ml |

Specificity

No detectable cross-reactivity with any other cytokine.

Storage

Store at 4°C for frequent use, at -20°C for infrequent use.

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

Expiration

Four months at 4°C and eight months at -20°C.

Application

For quantitative detection of mouse Cathepsin B in tissue lysates or cell culture supernates.

The significance of detection in sera, plasma, body fluids is undetermined.

Principle

Mouse Cathepsin B ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. Mouse Cathepsin B 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 mouse Cathepsin B amount of sample captured in plate.

Kit Components

1. Lyophilized recombinant mouse Cathepsin B standard: 10ng/tubex2.
2. One 96-well plate precoated with anti- mouse Cathepsin B antibody.
3. Sample diluent buffer: 30 ml
4. Biotinylated anti- mouse Cathepsin B 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 and Automated plate washer.
2. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended if there is a large amount of samples.
3. Clean tubes and Eppendorf tubes.
4. 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 H₂O 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 Na₂HPO₄ and 0.2g NaH₂PO₄ to 1000ml distilled water and adjust pH to 7.2-7.6. Finally, adjust the total

To reorder contact us at:
Antagene, Inc.
Toll Free: 1(866)964-2589
Tel: (650) 964-2589
Fax: (650) 964-2519
email: Info@antageneinc.com

FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC AND CLINICAL USE.

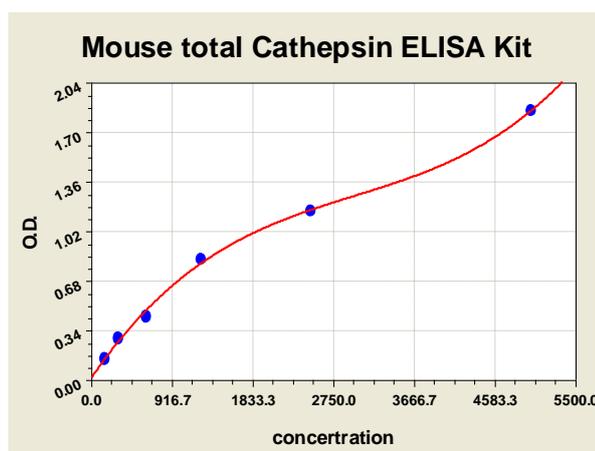
Product Information Sheet

volume to 1L.

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°C for 30 min before using.

Mouse Cathepsin B ELISA Kit-1X96 Well Plate Image



Background

Cathepsin B is an enzymatic protein belonging to the peptidase or protease families. In humans, it is coded by the CTSB gene.^{1, 2} And this gene is mapped to chromosome 8p22.³ The protein encoded by this gene is a lysosomal cysteine proteinase composed of a dimer of disulfide-linked heavy and light chains, both produced from a single protein precursor. It is a member of the peptidase C1 family. Cathepsin B was once suspected as a candidate protease participating in the conversion of β -amyloid precursor protein into the amyloid plaques found in Alzheimer's disease patients. However, this function is now known to be mediated by BACE1 protease. It is now thought that cathepsin B can degrade β -amyloid precursor protein into harmless fragments. Thus, it is conceivable cathepsin B may play a pivotal role in the natural defense against Alzheimer's disease.⁴ Overexpression of cathepsin B has been associated with esophageal adenocarcinoma and other tumors. At least five transcript variants encoding the same protein have been found for this gene. The standard product used in this kit is recombinant mouse Cathepsin B with the molecular mass of 37KDa.

Reference

1. Chan SJ, San Segundo B, McCormick MB, Steiner DF (October 1986). "Nucleotide and predicted amino acid sequences of cloned human and mouse preprocathepsin B cDNAs". *Proc. Natl. Acad. Sci. U.S.A.* 83 (20): 7721–5.
2. Cao L, Taggart RT, Berquin IM, Moin K, Fong D, Sloane BF (February 1994). "Human gastric adenocarcinoma cathepsin B: isolation and sequencing of full-length cDNAs and polymorphisms of the gene". *Gene* 139 (2): 163–9.
3. Wang, X.; Chan, S. J.; Eddy, R. L.; Byers, M. G.; Fukushima, Y.; Henry, W. M.; Haley, L. L.; Steiner, D. F.; Shows, T. B. : Chromosome assignment of cathepsin B (CTSB) to 8p22 and cathepsin H (CTSH) to 15q24-q25. (Abstract) *Cytogenet. Cell Genet.* 46: 710-711, 1987. Mueller-Steiner S, Zhou Y, Arai H, Roberson ED, Sun B, Chen J, Wang X, Yu G, Esposito L, Mucke L, Gan L (September 2006). "Anti-amyloidogenic and neuroprotective functions of cathepsin B: implications for Alzheimer's disease". *Neuron* 51 (6): 703–14

FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC AND CLINICAL USE.