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Datasheet for ABIN411391

## Cathepsin B ELISA Kit

### 1 Image

#### Overview

Quantity:	96 tests
Target:	Cathepsin B (CTSB)
Binding Specificity:	AA 18-339
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	156-10000 pg/mL
Minimum Detection Limit:	156 pg/mL
Application:	ELISA

#### Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human Cathepsin B
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: R18-I339
Specificity:	Expression system for standard: NSO Immunogen sequence: R18-I339
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

## Product Details

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Sensitivity: <5pg/mL

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Material not included: Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g NaCl

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## Target Details

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Target: Cathepsin B (CTSB)

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Alternative Name: CTSB ([CTSB Products](#))

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Background: Protein Function: Thiol protease which is believed to participate in intracellular degradation and turnover of proteins. Has also been implicated in tumor invasion and metastasis.

Background: Cathepsin B is an enzymatic protein belonging to the peptidase or protease families. In humans, it is coded by the CTSB gene.<sup>1, 2</sup> 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 beta-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 beta-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.<sup>4</sup> 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 human Cathepsin B with the molecular mass of 37KDa.

Synonyms: Cathepsin B,<sup>3,4,22,1</sup>,APP secretase,APPS,Cathepsin B1,Cathepsin B light chain,Cathepsin B heavy chain,CTSB,CPSB,

Full Gene Name: Cathepsin B

Cellular Localisation: Lysosome. Melanosome. Secreted, extracellular space . Identified by mass spectrometry in melanosome fractions from stage I to stage IV.

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Gene ID: 1508

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UniProt: [P07858](#)

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Pathways: [Activation of Innate immune Response](#), [Toll-Like Receptors Cascades](#)

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## Application Details

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Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Comment:	Sequence similarities: Belongs to the peptidase C1 family.
Plate:	Pre-coated
Protocol:	human Cathepsin B ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for Cathepsin B has been precoated onto 96-well plates. Standards(NSO, R18-I339) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for Cathepsin B is added 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 Cathepsin B amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 10000pg/mL, 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 312pg/mL, 156pg/mL human Cathepsin B standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of human cell culture supernates, serum or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human Cathepsin B standard solution and each sample be measured in duplicate.

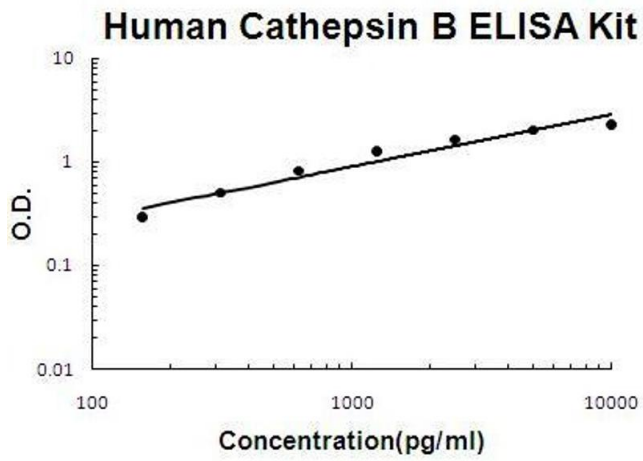
Assay Precision:	<ul style="list-style-type: none"><li>• Sample 1: n=16, Mean(pg/ml): 1350, Standard deviation: 68.9, CV(%): 5.1</li><li>• Sample 2: n=16, Mean(pg/ml): 3080, Standard deviation: 150.9, CV(%): 4.9</li><li>• Sample 3: n=16, Mean(pg/ml): 6170, Standard deviation: 357.9, CV(%): 5.8</li><li>• Sample 1: n=24, Mean(pg/ml): 1452, Standard deviation: 113.3, CV(%): 7.8</li><li>• Sample 2: n=24, Mean(pg/ml): 3209, Standard deviation: 256.7, CV(%): 8</li><li>• Sample 3: n=24, Mean(pg/ml): 6124, Standard deviation: 520.5, CV(%): 8.5</li></ul>
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Restrictions:	For Research Use only
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## Handling

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Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C, 4 °C
Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles
Expiry Date:	12 months



#### ELISA

**Image 1.** Human Cathepsin B PicoKine ELISA Kit standard curve