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Datasheet for ABIN921086

## Cathepsin D ELISA Kit

1 Image

1 Publication

### Overview

Quantity:	96 tests
Target:	Cathepsin D (CTSD)
Binding Specificity:	AA 21-412
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 D
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: L21-L412
Specificity:	Expression system for standard: NSO Immunogen sequence: L21-L412
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

## Product Details

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Sensitivity: <10pg/mL

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

## Target Details

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Target: Cathepsin D (CTSD)

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

Background: Protein Function: Acid protease active in intracellular protein breakdown. Involved in the pathogenesis of several diseases such as breast cancer and possibly Alzheimer disease.  
Background: Cathepsin D is a protein that in humans is encoded by the CTSD gene. This proteinase is a member of the peptidase C1 family, having a specificity similar to but narrower than that of pepsin A. It is mapped to 11p15.5. The cDNA encodes a 412-amino acid protein with 20 and 44 amino acids in a pre- and prosegment, respectively. Cathepsin D is one of the lysosomal proteinases. It is ubiquitously expressed and is involved in proteolytic degradation, cell invasion, and apoptosis. Mutations in this gene are involved in the pathogenesis of several diseases, including breast cancer and possibly Alzheimer disease and it has been considered as a breast cancer tumor marker.  
Synonyms: Cathepsin D,3.4.23.5,Cathepsin D light chain,Cathepsin D heavy chain,CTSD,CPSD,  
Full Gene Name: Cathepsin D  
Cellular Localisation: Lysosome. Melanosome. Secreted, extracellular space. Identified by mass spectrometry in melanosome fractions from stage I to stage IV. In aortic samples, detected as an extracellular protein loosely bound to the matrix (PubMed:20551380)..

Gene ID: 1509

UniProt: [P07339](#)

Pathways: [Peptide Hormone Metabolism](#)

## 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 A1 family.

## Application Details

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Tissue Specificity: Expressed in the aorta extracellular space (at protein level) .

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Plate: Pre-coated

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Protocol: human Cathepsin D ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for Cathepsin D has been precoated onto 96-well plates. Standards(NSO, L21-L412) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for Cathepsin D 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 D amount of sample captured in plate.

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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 D 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 D standard solution and each sample be measured in duplicate.

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Assay Precision:

- Sample 1: n=16, Mean(ng/ml): 1.24, Standard deviation: 0.035, CV(%): 2.8
- Sample 2: n=16, Mean(ng/ml): 3.37, Standard deviation: 0.108, CV(%): 3.2
- Sample 3: n=16, Mean(ng/ml): 6.73, Standard deviation: 0.236, CV(%): 3.5
- Sample 1: n=24, Mean(ng/ml): 1.38, Standard deviation: 0.047, CV(%): 3.4
- Sample 2: n=24, Mean(ng/ml): 3.51, Standard deviation: 0.130, CV(%): 3.7
- Sample 3: n=24, Mean(ng/ml): 6.82, Standard deviation: 0.28, CV(%): 4.1

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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.

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Storage: -20 °C, 4 °C

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

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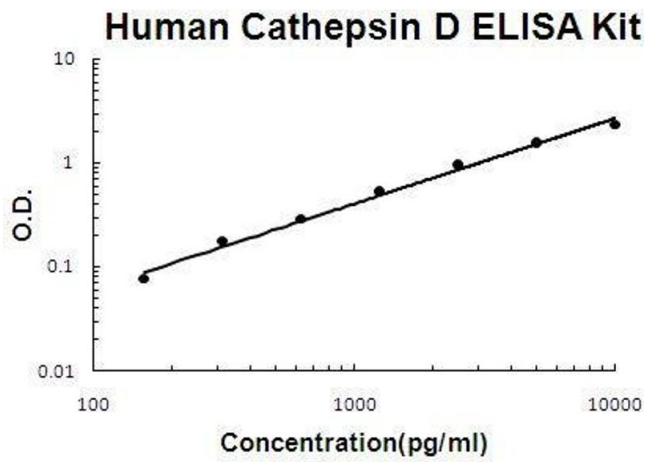
Expiry Date: 12 months

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## Publications

Product cited in: Liu, Chen, Zhang, Tan, Wang: "Increased Cathepsin D Correlates with Clinical Parameters in Newly Diagnosed Type 2 Diabetes." in: **Disease markers**, Vol. 2017, pp. 5286408, (2018) ([PubMed](#)).

## Images



### ELISA

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