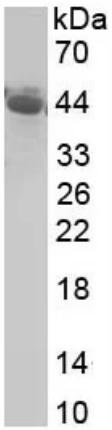
Active Cathepsin D (CTSD)

Catalog#:PHH12638

概述（Summary）

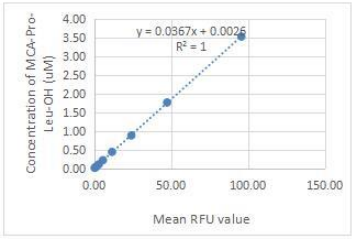
别称（Alternative Names）	CPSD; CLN10; Lysosomal Aspartyl Protease; Ceroid-Lipofuscinosis,Neuronal 10
纯度（Purity）	Greater than 90% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Leu21-Leu412】
Accession #	P07339
表达宿主（Host）	293F
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	44.2 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Acid protease active in intracellular protein breakdown. Plays a role in APP processing following cleavage and activation by ADAM30 which leads to APP degradation. Involved in the pathogenesis of several diseases such as breast cancer and possibly Alzheimer disease.

电泳图（SDS-PAGE image）



Greater than 90% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）



RFU (320/405)	MCA-Pro-Leu-OH (product) uM
95.78	3.52
47.46	1.76
24.20	0.88
11.63	0.44
5.71	0.22
3.05	0.11
1.52	0.05
0.77	0.03

Figure 1. The standard curve of MCA-Pro-Leu-OH

Specific Activity (pmol/min/µg) =

$$\frac{\text{Adjusted Vmax * (RFU/min) x Conversion Factor ** (pmol/RFU)}}{\text{amount of enzyme (ug)}}$$

*Adjusted for Substrate Blank

**Derived using calibration standard MCA-Pro-Leu-OH

Cathepsin D is a lysosomal aspartic protease of the pepsin family. Human cathepsin D is synthesized as a precursor protein, consisting of a signal peptide (residues 1 18), a propeptide (residues 19 64), and a mature chain (residues 65 412). The mature chain can be processed further to the light (residues 65 161) and heavy (residues 169 412) chains. It is expressed in most cells and overexpressed in breast cancer cells. It is a major enzyme in protein degradation in lysosomes, and also involved in the presentation of antigenic peptides. Mice deficient in this enzyme showed a progressive atrophy of the intestinal mucosa, a massive destruction of lymphoid organs, and a profound neuronal ceroid lipofucinosis, indicating that cathepsin D is essential for proteolysis of proteins regulating cell growth and tissue homeostasis. The activity of recombinant human CTSD is measured by its ability to cleave a fluorogenic peptide substrate MCA-Pro-Leu-Gly-Leu-DPA-Ala-Arg-NH2 in the assay buffer 0.1 M NaOAc, 0.2 M NaCl, pH 3.5. The rhCTSD is diluted to 20 ug/ml in assay buffer, then incubated at 37 °C for 30min. The incubated rhCTSD is diluted to 5 ug/mL in assay buffer. Loading into a black well plate 50 µL of 5 ug/mL rhCTSD and start the reaction by adding 50 µL of 60 µM substrate, with a substrate blank containing 50 µL assay buffer, 50 µL substrate, and no rhCTSD. Then read at excitiation and emission wavelengths of 320 nm and 405 nm, respectively, in kinetic mode for 5 minutes. The specific activity of recombinant human CTSD is > 675 pmol/min/µg.

注意事项（Note）

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