

DATASHEET

Version 20181206

Cathepsin B, Human

Cat. No.: Z03322-10

Size: 10.0 ug

Synonyms: Cathepsin B; APP secretase; APPS

Description:

Cathepsin B is an enzymatic protein that is a member of the peptidase (or protease) family. Elevated levels of cathepsin B occur in a wide variety of disease, causing numerous pathologies including cell death, inflammation, and the production of toxic peptides. For example, neuroscience research suggests that cathepsin B plays a role in inducing epilepsy resulting in a significant amount of cell death. Seizure-induced rats treated with a cathepsin B inhibitor exhibited improved neurological scores and learning ability with reduced neuronal cell death.

Recombinant Human Cathepsin B produced in CHO cells is a polypeptide chain containing 332 amino acids. A fully biologically active molecule, rhCathepsin B has a molecular mass of 43 kDa analyzed by reducing SDS-PAGE and is obtained by chromatographic techniques at GenScript.

Amino Acid Sequence:

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00001 RSRPSFHPLS DELVNYVNKR NTTWQAGHNF YNVDMSYLKR
00041 LCGTFLGGPK PPQRVMFTED LKLPASFDAR EQWPQCPTIK
00081 EIRDQSGSCGS CWAFGAVEAI SDRICIHTNA HVSVEVSAED
00121 LLTCCGSMCG DGCNGGYPAE AWNFWTRKGL VSGGLYESHV
00161 GCRPYSIPPC EHHVNGSRPP CTGEGDTPKC SKICEPGYSP
00201 TYKQDKHYGY NSYSVSNSEK DIMAEIYKNG PVEGAFSVYS
00241 DFLLYKSGVY QHVTGEMMG HAIKILGWV ENGTPYWLVA
00281 NSWNTDWGDN GFFKILRGQD HCGIESEVVA GIPRTDQYWE
00321 KIHSHHHHHH HH
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Source: CHO

Biological Activity: The Specific Activity is > 500 pmol/min/μg, measured by Cathepsin B's ability to cleave the fluorogenic peptide substrate Z-FR-AMC (Enzo, Catalog: P139).

Activation Buffer: 25 mM MES, 5 mM DTT, pH 5.0

Assay Buffer: 25 mM MES, pH 5.0

Activate Cathepsin B: Dilute Cathepsin B to 10 μg/mL in Activation Buffer and incubate at room temperature for 15 minutes.

Incubate 10 μM Z-FR-AMC and 0.2ng/μL activated Cathepsin B at room temperature for 5 minutes.

Quantified by releasing the AMC which is detected by at excitation and emission wavelengths of 360 nm and 460 nm, respectively.

Molecular Weight: 43 kDa, observed by reducing SDS-PAGE.

Formulation: Liquid after a 0.2 μm filtered solution in 25 mM Tris, 150 mM NaCl, 20% Glycerol, pH 8.0.

Purity: > 95% as analyzed by reducing SDS-PAGE.

Endotoxin Level: < 0.2 EU/μg, determined by LAL method.

Storage: Recombinant Human Cathepsin B remains stable up to 6 months at lower than -70°C from date of receipt under sterile conditions. Up to 3 months at lower than -70°C under sterile conditions after opening. Avoid repeated freeze-thaw cycles.