

**Synonym**

CTSB,CPSB,APPS

**Source**

Mouse Cathepsin B, His Tag(CTB-M52H9) is expressed from human 293 cells (HEK293). It contains AA His 18 - Phe 339 (Accession # [P10605-1](#) ).

Predicted N-terminus: His 18

**Molecular Characterization**

Cathepsin B(His 18 - Phe 339) P10605-1	Poly-his
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This protein carries a polyhistidine tag at the C-terminus. This protein contains an Activation peptide, and will be partially processed into Pro form with calculated MW of 37.3 kDa and mature form with calculated MW of 29 kDa under reducing (R) condition. The protein migrates as 43-47 kDa and 32-35 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Endotoxin**

Less than 1.0 EU per µg by the LAL method.

**Purity**

>90% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

**Formulation**

Lyophilized from 0.22 µm filtered solution in 50 mM Tris, 150 mM NaCl, pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

**Reconstitution**

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

**Storage**

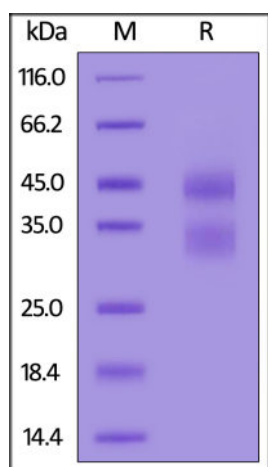
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**

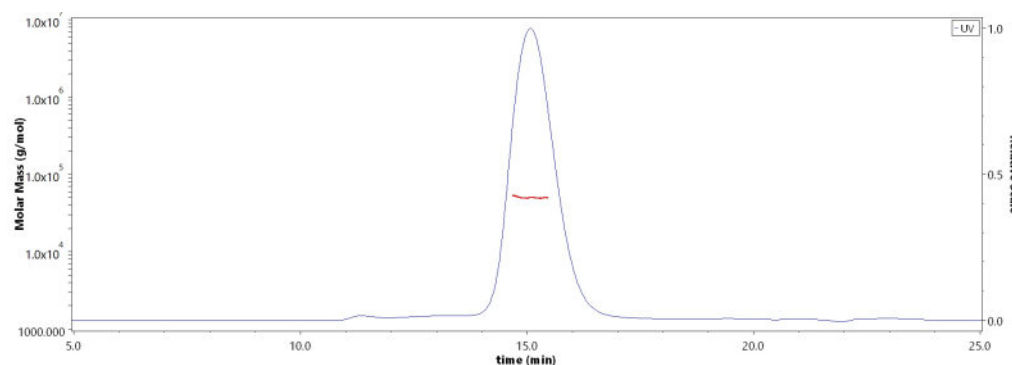


Mouse Cathepsin B, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

**Bioactivity**

Measured by its ability to cleave the fluorogenic peptide substrate Z-LR-AMC. The specific activity is >2,800 pmol/min/µg, as measured under the described conditions(QC tested).

**SEC-MALS**



The purity of Mouse Cathepsin B, His Tag (Cat. No. CTB-M52H9) is more than 90% and the molecular weight of this protein is around 45-55 kDa verified by SEC-MALS.

[Report](#)

## **Background**

Cathepsin B (CTSB) is also known as APP secretase (APPS) and CPSB, is an enzymatic protein belonging to the peptidase C1 family. Cathepsin B / CTSB is synthesized as a proenzyme. Following removal of the signal peptide, the inactive proenzyme undergoes further modifications including removal of the pro region to result in the active enzyme. The catalytic activity of Cathepsin B / APPS contains: Hydrolysis of proteins with broad specificity for peptide bonds; Preferentially cleaves -Arg-Arg-|-Xaa bonds in small molecule substrates (thus differing from cathepsin L); In addition to being an endopeptidase, shows peptidyl-dipeptidase activity, liberating C-terminal dipeptides. As a thiol protease, cathepsin B / CPSB is believed to participate in intracellular degradation and turnover of proteins and has also been implicated in tumor invasion and metastasis. Overexpression of cathepsin B has been associated with esophageal adenocarcinoma and other tumors.

## **Clinical and Translational Updates**

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.