

## Recombinant Human CTSB Protein, His-tagged

**Cat. No.** CTSB-785H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>Product Overview</b> | Recombinant human CTSB protein with His tag was expressed in HEK293.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Source</b>           | HEK293                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>ProteinLength</b>    | 339                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Description</b>      | <p>This gene encodes a member of the C1 family of peptidases. Alternative splicing of this gene results in multiple transcript variants. At least one of these variants encodes a preproprotein that is proteolytically processed to generate multiple protein products. These products include the cathepsin B light and heavy chains, which can dimerize to form the double chain form of the enzyme. This enzyme is a lysosomal cysteine protease with both endopeptidase and exopeptidase activity that may play a role in protein turnover. It is also known as amyloid precursor protein secretase and is involved in the proteolytic processing of amyloid precursor protein (APP). Incomplete proteolytic processing of APP has been suggested to be a causative factor in Alzheimer's disease, the most common cause of dementia. Overexpression of the encoded protein has been associated with esophageal adenocarcinoma and other tumors. Both Cathepsin B and Cathepsin L are involved in the cleavage of the spike protein from the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) upon its entry to the human host cell. Multiple pseudogenes of this gene have been identified.</p> |

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|                       |                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Form</b>           | Lyophilized                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Molecular Mass</b> | 36.7 kDa (pro-form) & 29 kDa (mature-form)                                                                                                                                                                                                                                                                                                                                                            |
| <b>AA Sequence</b>    | <p>MWQLWASLCCLLVLANARSRPSFHPLSDELVNYVNKRNTTWQAGHNFYNVDMSYL</p> <p>KRLCGTFLGGPKPPQRVMFTEDLKLPASFDAREQWPQCPTIKEIRDQGSCGSCWA</p> <p>FGAVEAISDRICHTNAHVSVEVSAEDLLTCCGSMCGDGCNGGYPAEAWNFWTRKG</p> <p>LVSGGLYESHVGCPRYSIPPCEHHVNGSRPPCTGEGDTPKCSKICEPGYSPTYKQD</p> <p>KHYGYNYSVSNSEKDIMAEIYKNGPVEGAFSVYSDFLLYKSGVYQHVTGEMMGH</p> <p>AIRILGWGVENGTPYWLANSWNTDWGDNGFFKILRGQDHCIESEVVAGIPRTDQ</p> <p>YWEKI</p> |
| <b>Purity</b>         | > 98%                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Applications</b>   | WB; ELISA; FACS; FC                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Stability</b>      | <p>This bioreagent is stable at 4 centigrade (short-term) and -70 centigrade(long-term).</p> <p>After reconstitution, sample may be stored at 4 centigrade for 2-7 days and below -18 centigrade for future use.</p>                                                                                                                                                                                  |
| <b>Storage</b>        | At -20 centigrade.                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Concentration</b>  | 1 mg/mL                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Storage Buffer</b> | PBS (pH 7.4-7.5). Sterile-filtered colorless solution.                                                                                                                                                                                                                                                                                                                                                |
| <b>Reconstitution</b> | <p>Reconstitute in sterile distilled H<sub>2</sub>O to no less than 100 µg/mL; dilute reconstituted stock further in other aqueous solutions if needed. Please review COA for lot-specific instructions. Final measurements should be determined by the end-user for optimal performance.</p>                                                                                                         |

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## GENE INFORMATION

|                 |                                                                                                                     |
|-----------------|---------------------------------------------------------------------------------------------------------------------|
| Gene Name       | CTSB cathepsin B [ Homo sapiens (human) ]                                                                           |
| Official Symbol | CTSB                                                                                                                |
| Synonyms        | CTSB; cathepsin B; cathepsin B1; APP secretase; cysteine protease; amyloid precursor protein secretase; APPS; CPSB; |
| Gene ID         | 1508                                                                                                                |
| mRNA Refseq     | NM_001908                                                                                                           |
| Protein Refseq  | NP_001899                                                                                                           |
| MIM             | 116810                                                                                                              |
| UniProt ID      | P07858                                                                                                              |

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