

## Recombinant Human CTSD, His-tagged

**Cat. No.** CTSD-218H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant Human CTSD MS Standard Protein, C13 and N15-labeled (CTSD / Cathepsin D, Heavy Labeled) Ser 19 - Leu 412 (Accession # NP_001900) was produced in human 293 cells (HEK293) with fully chemically defined cell culture medium to obtain >99% incorpor                                                                                                                                                                                                                                                                                                            |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Source</b>           | HEK293                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>ProteinLength</b>    | 19-412 a.a.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Description</b>      | Cathepsin D is also known as CTSD, CPSD, which belongs to the peptidase A1 family. Cathepsin D can be cleaved into the following 2 chains: cathepsin D light chain and cathepsin D heavy chain, which is expressed in the aorta extracellular space (at protein level). The catalytic activity of Cathepsin D is specificity similar to, but narrower than, that of pepsin A. Cathepsin D does not cleave the 4-Gln- -His-5 bond in B chain of insulin. Cathepsin D involved in the pathogenesis of several diseases such as breast cancer and possibly Alzheimer disease. |
| <b>Form</b>             | Lyophilized from 0.22 µm filtered solution in PBS, pH7.4. Normally Mannitol or Trehalose are added as protectants before lyophilization.                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Molecular Mass</b>   | CTSD / Cathepsin D, Heavy Labeled is fused with a polyhistidine tag at the C-terminus, and has a calculated MW of 43.6 kDa. The predicted N-terminus is Ser 19. DTT-reduced Protein migrates as 45-55 kDa in SDS-PAGE due to                                                                                                                                                                                                                                                                                                                                               |

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|                       |                                                                                                                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | glycosylation.CTSD / Cathepsin D,                                                                                                                                                           |
| <b>Endotoxin</b>      | Less than 1.0 EU per µg of the CTSD / Cathepsin D, Heavy Labeled by the LAL method.                                                                                                         |
| <b>Purity</b>         | >95% as determined by SDS-PAGE.                                                                                                                                                             |
| <b>Storage</b>        | Avoid repeated freeze-thaw cycles.No activity loss was observed after storage at:In lyophilized state for 1 year (4oC); After reconstitution under sterile conditions for 3 months (-70oC). |
| <b>Reconstitution</b> | See Certificate of Analysis for reconstitution instructions and specific concentrations.                                                                                                    |

## GENE INFORMATION

|                        |                                                                                                                                                                                                                               |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | CTSD cathepsin D [ Homo sapiens ]                                                                                                                                                                                             |
| <b>Official Symbol</b> | CTSD                                                                                                                                                                                                                          |
| <b>Synonyms</b>        | CTSD; cathepsin D; cathepsin D (lysosomal aspartyl protease) , CPSD; ceroid lipofuscinosis; neuronal 10; CLN10; lysosomal aspartyl protease; lysosomal aspartyl peptidase; ceroid-lipofuscinosis, neuronal 10; CPSD; MGC2311; |
| <b>Gene ID</b>         | 1509                                                                                                                                                                                                                          |
| <b>mRNA Refseq</b>     | NM_001909                                                                                                                                                                                                                     |
| <b>Protein Refseq</b>  | NP_001900                                                                                                                                                                                                                     |
| <b>MIM</b>             | 116840                                                                                                                                                                                                                        |

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|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UniProt ID          | P07339                                                                                                                                                                                                                                                                                                              |
| Chromosome Location | 11p15.5                                                                                                                                                                                                                                                                                                             |
| Pathway             | Ceramide signaling pathway, organism-specific biosystem; Direct p53 effectors, organism-specific biosystem; LKB1 signaling events, organism-specific biosystem; Lysosome, organism-specific biosystem; Lysosome, conserved biosystem; Tuberculosis, organism-specific biosystem; Tuberculosis, conserved biosystem; |
| Function            | aspartic-type endopeptidase activity; peptidase activity;                                                                                                                                                                                                                                                           |

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