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Cathepsin L

Catalog # PVGS1665

Product Information

Primary Accession	P07711
Species	Human
Sequence	Thr18-Val333
Purity	> 95% as analyzed by SDS-PAGE
Endotoxin Level	
Expression System	Human cells
Formulation	Supplied as a 0.2 μm filtered solution in 20 mM HAc-NaAc, 150 mM NaCl, pH 4.5.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at -70°C or below, the product can be stored for 2-3 weeks at 2-8°C or 3 months at -20°C. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	1514
Other Names	Procathepsin L, 3.4.22.15, Cathepsin L1, Major excreted protein, MEP, Cathepsin L, Cathepsin L heavy chain, Cathepsin L light chain, CTSL (HGNC:2537), CTSL1
Target Background	Cathepsin L is an enzyme. Cathepsin L, a lysosomal endopeptidase expressed in most eukaryotic cells, is a member of the papain-like family of cysteine proteinases. Cathepsin L plays a major role in antigen processing, tumor invasion and metastasis, bone resorption, and turnover of intracellular and secreted proteins involved in growth regulation. Unlike the precursor forms of other papain family members, the 43 kDa pro-cathepsin L itself is secreted from various cells. Pro-cathepsin L is the major excreted protein of malignantly transformed mouse fibroblasts and is also one of the major acidic cysteine proteases in mammalian cells.

Protein Information

Name	CTSL (HGNC:2537)
Synonyms	CTSL1
Function	Thiol protease important for the overall degradation of proteins in lysosomes (Probable). Plays a critical for normal cellular functions such as

general protein turnover, antigen processing and bone remodeling. Involved in the solubilization of cross-linked TG/thyroglobulin and in the subsequent release of thyroid hormone thyroxine (T4) by limited proteolysis of TG/thyroglobulin in the thyroid follicle lumen (By similarity). In neuroendocrine chromaffin cells secretory vesicles, catalyzes the prohormone proenkephalin processing to the active enkephalin peptide neurotransmitter (By similarity). In thymus, regulates CD4(+) T cell positive selection by generating the major histocompatibility complex class II (MHCII) bound peptide ligands presented by cortical thymic epithelial cells. Also mediates invariant chain processing in cortical thymic epithelial cells (By similarity). Major elastin-degrading enzyme at neutral pH. Accumulates as a mature and active enzyme in the extracellular space of antigen presenting cells (APCs) to regulate degradation of the extracellular matrix in the course of inflammation (By similarity). Secreted form generates endostatin from COL18A1 (PubMed:10716919). Critical for cardiac morphology and function. Plays an important role in hair follicle morphogenesis and cycling, as well as epidermal differentiation (By similarity). Required for maximal stimulation of steroidogenesis by TIMP1 (By similarity).

Cellular Location

Lysosome {ECO:0000250|UniProtKB:P06797}. Apical cell membrane {ECO:0000250|UniProtKB:P06797}; Peripheral membrane protein {ECO:0000250|UniProtKB:P06797}; Extracellular side {ECO:0000250|UniProtKB:P06797}. Cytoplasmic vesicle, secretory vesicle, chromaffin granule {ECO:0000250|UniProtKB:P25975}. Secreted, extracellular space {ECO:0000250|UniProtKB:P06797}. Secreted {ECO:0000250|UniProtKB:P06797}. Note=Localizes to the apical membrane of thyroid epithelial cells. Released at extracellular space by activated dendritic cells and macrophages {ECO:0000250|UniProtKB:P06797}

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