Recombinant Mouse Cathepsin S/CTSS Protein (His Tag)

Catalog Number: PKSM040493

Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

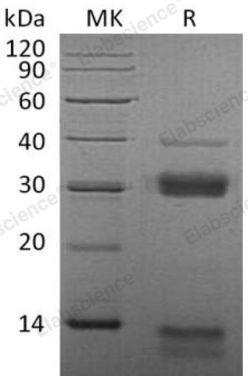
Description

Species	Mouse
Source	HEK293 Cells-derived Mouse Cathepsin S/CTSS protein Met 1-Ile 340, with an C-terminal His
Calculated MW	37.6 kDa
Accession	AAB94925.1
Bio-activity	Measured by its ability to cleave the fluorogenic peptide substrate, Mca-RPKPVENval-WRK (Dnp)-NH2, AnaSpec, Catalog # 27114.The specific activity is > 300 pmoles/min/μg. (Activation description: The enzyme achieves its activity under acidic pH)

Properties

Purity	> 90 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Supplied as sterile 12.5mM MES, 75mM NaCl, 50% Glycerol, pH6.5
Reconstitution	Please refer to the printed manual for detailed information.

Data



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Background

Cathepsin S (CTSS), one of the lysosomal proteinases, has many important physiological functions in the nervous system, especially in process of extracellular matrix degradation and endocellular antigen presentation. CTSS is synthesized as inactive precursor of 331 amino acids consisting of a 15-aa signal peptide, a propeptide of 99 aa, and a mature polypeptide of 217 aa. It is activated in the lysosomes by a proteolytic cleavage of the propeptide. Cathepsin S is expressed in the lysosome of antigen presenting cells, primarily dendritic cells, B-cells and macrophages. Compared with other lysosomal cysteine proteases, cathepsin S has displayed some unique characteristics. Cathepsin S is most well known for its critical function in the proteolytic digestion of the invariant chain chaperone molecules, thus controlling antigen presentation to CD4+ T-cells by major histocompatibility complex (MHC) class II molecules or to NK1.1+ T-cells via CD1 molecules. Cathepsin S also appears to participate in direct processing of exogenous antigens for presentation by MHC class II to CD4+ T-cells, or in cross-presentation by MHC class I molecules to CD8+ T-cells. In addition, although direct evidence is still lacking, in its secreted form cathepsin S is implicated in degradation of the extracellular matrix, which may contribute to the pathology of a number of diseases, including arthritis, atherosclerosis, neurological diseases and chronic obstructive pulmonary disease.

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