



Recombinant Protein Technical Manual

Recombinant Human Cathepsin L/CTSL Protein (His Tag)(Active)
RPES2679

Product Data:

Product SKU: RPES2679

Size: 10µg

Species: Human

Expression host: HEK293 Cells

Uniprot: NP_001903.1

Protein Information:

Molecular Mass: 37.3 kDa

AP Molecular Mass: 37 kDa

Tag: C-His

Bio-activity: Measured by its binding ability in a functional ELISA. Immobilized human CD74 at 5 µg/ml (100 µl/well) can bind biotinylated human CTSL1 with a linear range of 3.2-400 ng/ml.

Purity: > 90 % as determined by reducing SDS-PAGE.

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

Shipping: This product is provided as lyophilized powder which is shipped with ice packs.

Formulation: Lyophilized from sterile 50mM NaAc, 0.1M NaCl, pH 5.0

Reconstitution: Please refer to the printed manual for detailed information.

Application: Functional ELISA

Synonyms: Cathepsin L1; Major Excreted Protein; MEP; CTSL1; CTSL

Immunogen Information:

Sequence: Met 1-Val 333

Background:

Cathepsin L is a lysosomal cysteine protease that plays a major role in intracellular protein catabolism, and is potent in degrading collagen, laminin, elastin, as well as alpha protease inhibitor and other structural proteins of basement membranes. It is secreted by liver flukes at all stages of their development in the mammalian host, are believed to play important roles in facilitating parasite migration (tissue degradation), feeding and immuno-evasion. Like many proteases, Cathepsin L is synthesized as an inactive preproenzyme, and cleavage of the 96-residue proregion is necessary to generate the fully active 221-residue mature enzyme. Studies have demonstrated that cleavage of the proregion occur autocatalytically under acidic conditions. The enzyme takes part in nutrient acquisition by catabolizing host proteins to absorbable peptides, facilitates the migration of the parasite through the host intestine and liver by cleaving interstitial matrix proteins such as fibronectin, laminin and native collagen and is implicated in the inactivation of host immune defenses by cleaving immunoglobulins. Recently, Cathepsin L has been shown to suppress Th1 immune response in infected laboratory animals making them susceptible to concurrent bacterial infections. Cathepsin L is synthesized in large amounts and secreted by many malignantly transformed cells, and induced by growth factors and tumor promoters. In addition to its role in protein degradation, evidence has accumulated for the participation of Cathepsin L in various physiological and pathological processes, such as tumor invasion and metastasis, bone resorption, spermatogenesis, and arthritis. Accordingly, Cathepsin L may prove useful as a diagnostic or prognostic marker of human tumor malignancy.