Recombinant Human Cathepsin Z Protein (His Tag)

Catalog Number: PKSH031822

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

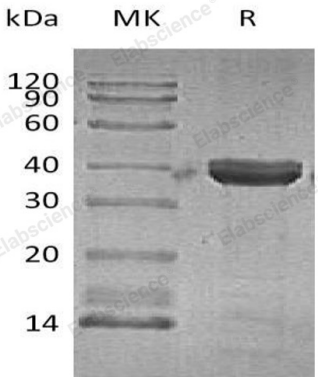
Description

Species	Human
Source	HEK293 Cells-derived Human Cathepsin Z protein Met 1-Val 303, with an C-terminal His
Calculated MW	33 kDa
Accession	Q9UBR2
Bio-activity	Measured by its ability to cleave the fluorogenic peptide substrate, Mca-RPPGFSAFK (Dnp)-OH, R &D Systems, Catalog # ES005. The specific activity is > 800 pmoles/min/μg.

Properties

Purity	> 97% as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Generally, 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 PBS, pH 7.4 Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



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Background

Cathepsin Z (CTSZ); also known as Cathepsin X or CATX; belongs to the C1 family of lysosomal cysteine proteases. Its gene structure and activity properties show several unique features that distinguish it clearly from other human cysteine proteases. It has a very short pro-region that shows no similarity to those of other cathepsins and a three-residue insertion motif that forms a characteristic ‘ mini loop’. Cathepsin Z exhibits mono- and di-peptidase activity at its C-terminus; and in contrast to cathepsin B; it does not act as an endopeptidase. It is restricted to the cells of theimmune system; predominantly monocytes; macrophages and dendritic cells. Cathepsin Z is widely expressed in human tissues; suggesting that this enzyme could be involved in the normal intracellular protein degradation taking place in all cell types. It is capable to cleave regulatory motifs at C-terminus affecting the function of targeted molecules. Cathepsin X may regulate also the maturation of dendritic cells; a process; which is crucial in the initiation of adaptive immunity. Furthermore; higher levels of Cathepsin Z are also found in tumour and immune cells of prostate and gastric carcinomas and inmacrophages of gastric mucosa; especially after infection by Helicobacter pylori. Cathepsin Z is also ubiquitously distributed in cancer cell lines and in primary tumors from different sources; suggesting that this enzyme may participate in tumor progression.

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