Recombinant Human Cathepsin C/CTSC/DPPI Protein (His Tag)

Catalog Number: PKSH031574

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

Description	
Species	Human
Source	HEK293 Cells-derived Human Cathepsin C/CTSC/DPPI protein Met 1-Leu 463, with an
	C-terminal His
Calculated MW	51.0 kDa
Observed MW	55 kDa
Accession	NP_001805.3
Bio-activity	Measured by its ability to cleave the fluorogenic peptide substrate, Gly-Arg-7-amido-4-
	methylcoumarin (GRAMC). The specific activity is > 200 pmoles/min/µg. (Activation
	description: The proenzyme needs to be activated by Cathepsin L for an activated form)
Properties	
Purity	> 92 % 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 $< -20^{\circ}$ 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

KDa	М
116 66.2	=
45.0	_
35.0	
25.0	-
18.4 14.4	=

> 92 % as determined by reducing SDS-PAGE.

Background

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Cathepsins are proteases found in many types of cells conserved in all animals, which have a vital role in mammalian cellular turnover such as bone resorption. The lysosomal cysteine protease Cathepsin C (CTSC), also known as dipeptidyl peptidase I (DPPI/DPP1), activates a number of granule-associated serine proteases with pro-inflammatory and immune functions by removal of their inhibitory N-terminal dipeptides. This lysosomal exo-cysteine protease belonging to the peptidase C1 family. Active cathepsin C is found in lysosomes as a 200-kDa multimeric enzyme. Subunits constituting this assembly all arise from the proteolytic cleavage of a single precursor giving rise to three peptides: the propeptide, the alpha- and the beta-chains. It is a central coordinator for activation of many serine proteases in immune/inflammatory cells. Defects in the Cathepsin C have been shown to be a cause of Papillon-Lefevre disease, an autosomal recessive disorder characterized by palmoplantar keratosis and periodontitis. Cathepsin C plays a key role in the activation of several degradative enzymes linked to tissue destruction in inflammatory diseases. Thus, it is a therapeutic target for the treatment of a number of inflammatory and autoimmune diseases.