Data Sheet (Cat.No.TMPY-02117)

TargetMol

Marapsin Protein, Human, Recombinant (His)

General Information

Synonyms:	UNQ1884/PRO4327;protease, serine 27;CAPH2;MPN
Protein Construction:	A DNA sequence encoding the human PRSS27 (Q9BQR3) extracellular domain (Met 1-Lys 290) was expressed, fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Ala 23
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q9BQR3
Molecular Weight:	30.9 kDa (predicted); 42 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its ability to cleave a colorimetric peptide substrate, NcarbobenzyloxyGlyArgThioBenzyl ester (ZGR-SBzl), in the presence of 5,5'Dithiobis (2-nitrobenzoic acid) (DTNB). The specific activity is > 2000 pmols/min/μg.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

The name "Pancreasin" because it is transcribed strongly in the pancreas. This secreted, tryptic serine protease, also known as Marapsin or PRSS27 (Protease, serine, 27), is a member of the peptidase S1 family. Pancreasin is inhibited by benzamidine and leupeptin but resists several classic inhibitors of trypsin. Marapsin was constitutively expressed in nonkeratinizing stratified squamous epithelia of human esophagus, tonsil, cervix, larynx, and

cornea. In fact, marapsin was the second most strongly up-regulated protease in psoriatic lesions, where expression was localized to the upper region of the hyperplastic epidermis. Similarly, in the hyperproliferative epithelium of regenerating murine skin wounds, marapsin localized to the suprabasal layers, where keratinocytes undergo squamous differentiation. Marapsin's restricted expression, localization, and cytokine-inducible expression suggest a role in the terminal differentiation of keratinocytes in hyperproliferating squamous epithelia.

Reference

Bhagwandin VJ, et al. (2003) Structure and activity of human pancreasin, a novel tryptic serine peptidase expressed primarily by the pancreas. J Biol Chem. 278(5): 3363-71.

Li W, et al. (2009) The serine protease marapsin is expressed in stratified squamous epithelia and is up-regulated in the hyperproliferative epidermis of psoriasis and regenerating wounds. J Biol Chem. 284(1): 218-28.