Data Sheet (Cat.No.TMPY-03017)

TargetMol

Kallikrein 7/KLK7 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	Prss6;SCCE;kallikrein-related peptidase 7
Protein Construction:	A DNA sequence encoding the mouse KLK7 (Q91VE3) (Met1-Arg249) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Gln 22
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q91VE3
Molecular Weight:	26.5 kDa (predicted); 31 and 34 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its ability to cleave the fluorogenic peptide substrate, Mca-RPKPVE-Nval-WRK (Dnp)-NH2. The specific activity is >70 pmoles/min/μg. (Activation description: The proenzyme needs to be activated by Thermolysin for an activated form)
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.

Shipping:

In general, Lyophilized powders are shipping with blue ice.

Protein Background

Kallikrein-7, also known as kallikrein-related peptidase 7, Stratum corneum chymotryptic enzyme, Serine protease 6, KLK7, and PRSS6, is a secreted protein that belongs to the peptidase S1 family and Kallikrein subfamily. Members of the Kallikrein family are involved in various malignancies such as prostate (PSA, KLK2, KLK15), ovarian (KLK4, KLK5, KLK6, KLK8, KLK1), and breast cancer (KLK1, KLK13, KLK14). Kallikrein-7 / KLK7 appears to be

increased in ovarian cancer and higher KLK7 expression in ovarian cancer tissue is associated with poorer prognosis of ovarian cancer patients. Kallikrein-7 / KLK7 is abundantly expressed in the skin and is expressed by keratinocytes in the epidermis. Kallikrein-7 / KLK7 is up-regulated in ovarian carcinoma, especially late-stage serous carcinoma, compared with normal ovaries and benign adenomas (at the protein level). It was significantly associated with shorter overall survival (OS) and disease-free survival (DFS). Kallikrein-7 / KLK7 may catalyze the degradation of intercellular cohesive structures in the cornified layer of the skin in the continuous shedding of cells from the skin surface. KLK7 also plays a role in the activation of precursors to inflammatory cytokines.

Reference

Hansson L., et al.,(1994), Cloning, expression, and characterization of stratum corneum chymotryptic enzyme. A skin-specific human serine proteinase. J. Biol. Chem. 269:19420-19426.

Yousef G.M., et al., (2000), The KLK7 (PRSS6) gene, encoding for the stratum corneum chymotryptic enzyme is a new member of the human kallikrein gene family -- genomic characterization, mapping, tissue expression and hormonal regulation.Gene 254:119-128.

Gan L., et al.,(2000), Sequencing and expression analysis of the serine protease gene cluster located in chromosome 19q13 region.Gene 257:119-130.