Data Sheet (Cat.No.TMPY-02258)

TargetMol

Kallikrein 3/KLK3 Protein, Human, Recombinant (His)

General Information

Synonyms: APS;KLK2A1;PSA;kallikrein related peptidase 3;Hk3

Protein Construction: Ala18-Pro261

Species: Human

Expression Host: HEK293 Cells

Accession: P07288

Molecular Weight: 28.3 kDa (predicted); 32-38 kDa (reducing conditions)

QC Testing

Biological Activity: Measured by its ability to cleave the colorimetric peptide substrate, Succinyl-Arg-Pro-Tyr-p-Nitroanilide(Suc-RPY-pNA). The specific activity is >100 pmoles/min/μg. (Activation description: The proenzyme needs to be activated by Thermolysin for an activated form)

Purity: ≥ 95% as determined by SDS-PAGE. ≥ 90% as determined by SEC-HPLC.

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:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

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

Kallikrein-related peptidase 3 (KLK3), also known as prostate-specific antigen (PSA), is the most useful biomarker for prostate cancer (PCa). KLK3 is suggested to play a role in regulating cancer growth through anti-angiogenic activity in vivo and in vitro.

Reference

Koistinen H,et al.(2008) Development of peptides specifically modulating the activity of KLK2 and KLK3. Biol Chem. 389(6): 633-42.

Yousef GM,et al.(2002) Kallikreins, steroid hormones and ovarian cancer: is there a link? Minerva Endocrinol. 27(3): 157-66.

Parikh H,et al.(2011) Fine mapping the KLK3 locus on chromosome 19q13.33 associated with prostate cancer susceptibility and PSA levels. Hum Genet. 129(6): 675-85.

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