

Prostate-Specific Antigen NATIVE, Human Seminal Plasma

Product Data Sheet

Type: Native
Tag: Tagless
Source: Human seminal plasma
Species: Human
Other names: PSA, Kallikrein-3, Gamma-seminoprotein,P-30 antigen, Semenogelase

Cat. No.: RD164335050 (0.05 mg)

Description

Native protein isolated from pooled human seminal plasma, 237 AA, MW 26,089 kDa (calculated without glycosylation). Protein identity confirmed by LC-MS/MS (NCBI no. gi|511857).

Introduction to the Molecule

Prostate-specific antigen (PSA), also known as gamma-seminoprotein or kallikrein-3 (KLK3), is a 33 kDa glycoprotein that is mainly produced by the epithelial cells of the prostate. PSA has been also found to be expressed in many non-prostatic normal or tumor tissues, like breast or breast cancer tissue and breast cancer cells, colon, kidney, liver, parotid, lung, endometrium, periuretral, thyroid and apocrine sweat glands.

PSA is present in serum in different molecular isoforms, free or unbound, and bound to serine protease inhibitors. Major part of serum PSA is bound to alpha-1-antichymotrypsin or alpha-2-macroglobulin.

The normal prostate contains PSA levels about million-fold higher than serum. The normal serum levels of PSA in males are under 4 µg/l, while the PSA levels in the seminal fluid are 10⁶ - fold higher, 0.2-5 g/l. The PSA concentration in female serum is much lower than in male, 0.2-0.3 µg/l.

PSA is currently used for prostate cancer diagnosis and monitoring of patients with prostate adenocarcinoma. Also about 30% of female breast tumors produce a 33 kDa glycoprotein that has striking similarities to seminal PSA. PSA could be used as a biomarker for breast cancer prognosis, for the spreading of hematogenous micrometastases.

Research topic

Immune Response, Infection and Inflammation, Oncology, Reproduction

Amino Acid Sequence

IVGGWECEKH SQPWQVLVAS RGRAVCGGVL VHPQWVLTAH HCIRNKSVIL LGRHSLFHPE DTGQVFQVSH SFPHPLYDMS
LLKNRFLRPG DDSSHDMLLL RLSEPAELTD AVKVM DLPTQ EPALGTTCTYA SGWGSIEPEE FLTPKKLQCV DLHVISNDVC
AQVHPQKVTK FMLCAGRWTG GKSTCSGDSG GPLVCNGVLQ GITSWGSEPC ALPERPSLYT KVVHYRQWIK DTIVANP

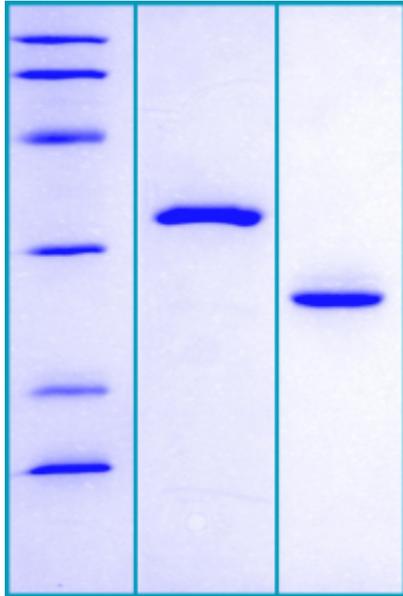
Source

Human seminal plasma

Purity

>90%

SDS-PAGE gel



SDS-PAGE analysis of Prostate-specific antigen native protein,
14% gel stained with Coomassie Brilliant Blue G250

- 1) M.W. marker - 14, 21, 31, 45, 66, 97 kDa
- 2) reduced and boiled sample, 2.5 μ g/lane
- 3) non-reduced and non-boiled sample, 2.5 μ g/lane

Endotoxin

< 1.0 EU/ μ g

Formulation

Filtered (0,4 μ m) and lyophilized in 0,5 mg/mL in 0,05M phosphate buffer, 0,075M NaCl, pH 7,4.

Reconstitution

Add deionized water to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage, Stability/Shelf Life

Store lyophilized protein at -80°C. Lyophilized protein remains stable until the expiry date when stored at -80°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after one week at 4°C.

Quality Control Test

- BCA to determine quantity of the protein.
- SDS PAGE to determine purity of the protein.
- LAL to determine quantity of endotoxine.

Applications

Cell culture and/or animal studies, ELISA, Immunological methods, Western blotting

Note

All samples used for protein preparation were tested and found negative for HBsAg, HIV1,2, HCV, syphilis, aHbc, RRR. Since no test can absolutely assure the absence of all infectious agents, this product should be handled as a potential biohazard. This product is intended for research use only.

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