abcam

ab322442

Anti-Prostate Specific Antigen antibody [RM1268]

Anti-Prostate Specific Antigen antibody [RM1268] is a Rabbit Recombinant Multiclonal antibody that is used in Prostate Specific Antigen Flow Cytometry (Intra), ELISA, ICC/IF, IHC-P, IP, Western Blot. Suitable for Human samples.

PSA levels are often correlated with prostrate cancer.

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Multiclonal
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM1268
Purification technique	Affinity purification Protein A
Concentration	0.488 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

I-ELISA

Tested

Species	Recombinant fragment - Human

Dilution info	1000 ng/mL
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Recombinant fragment - Human
Dilution info	-

Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information KLK3

Function	Hydrolyzes semenogelin-1 thus leading to the liquefaction of the seminal coagulum.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Prostate Specific Antigen (PSA) also known as kallikrein-related peptidase 3 (KLK3) is a serine protease with a mass of approximately 28.4 kDa. PSA is primarily expressed in the epithelial cells of the prostate gland. This glycoprotein is an important component in the seminal fluid where it performs its proteolytic activity that liquefies semen facilitating sperm motility.
Biological function summary	PSA functions by cleaving the gel-forming proteins present in seminal coagulum. It does not operate as part of a larger protein complex. PSA also interacts with substrates like fibronectin and semenogelin which play roles in seminal coagulation and liquefaction. The expression of PSA in prostate tissue has made it a valuable biomarker for prostate function and pathological conditions.
Pathways	PSA is involved in the kallikrein-kinin system which influences inflammation and blood pressure regulation. PSA is not directly a part of key metabolic or signaling pathways but it is co-expressed with key proteins like androgen receptor (AR) which modulates PSA's expression. The interplay between androgens and PSA highlights its role in hormone regulation within the male reproductive system.
Associated diseases and disorders	PSA levels serve as an indicator for prostate cancer and benign prostatic hyperplasia (BPH). Elevated PSA levels often correlate with prostate cancer although other prostate conditions such as prostatitis can also increase PSA without cancer. Proteins like PCA3 and the AR are also connected in the context of prostate cancer providing a broader understanding of PSA's role in these diseases.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

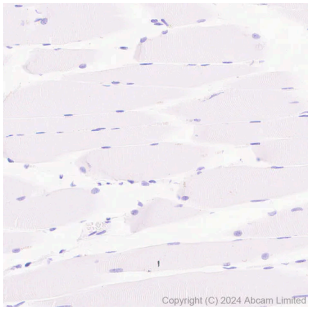
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

8 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Prostate Specific Antigen antibody [RM1268] (ab322442)

Prostate Specific Antigen Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human skeletal muscle using rabbit Anti-Prostate Specific Antigen antibody

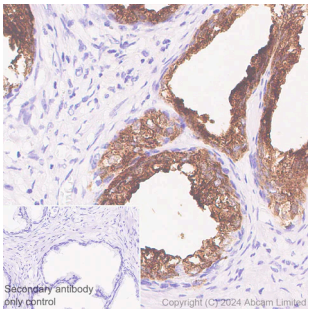
Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labeling Prostate Specific Antigen with ab322442 at 1/4000 (0.122 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on human skeletal muscle. The section was incubated with ab322442 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Prostate Specific Antigen antibody [RM1268] (ab322442)

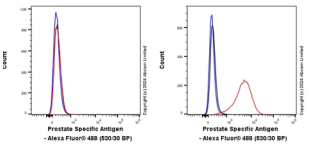
Immunohistochemical analysis of paraffin-embedded Human prostatic hyperplasia tissue labeling Prostate Specific Antigen with ab322442 at 1/4000 (0.122 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human prostatic hyperplasia. The section was incubated with ab322442 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

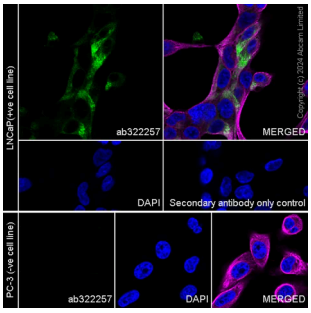


Flow Cytometry (Intracellular) - Anti-Prostate Specific Antigen antibody [RM1268] (ab322442)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized LNCaP (human prostate carcinoma epithelial cell) (Right) / PC-3 (human prostate adenocarcinoma epithelial cell) (Left) cells labelling Prostate Specific Antigen with ab322442 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

Goat anti-Rabbit IgG (Alexa Fluor® 647, ab150083) at 1/5000 dilution was used as the secondary antibody.

Low expression: PC-3.



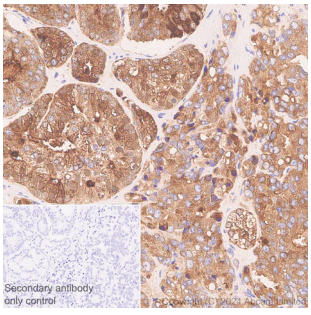
Immunocytochemistry/ Immunofluorescence - Anti-Prostate Specific Antigen antibody [RM1268] (ab322442)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized LNCaP(human prostate carcinoma epithelial cell) cells labelling Prostate Specific Antigen with ab322442 at 1/500 (0.976 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing cytoplasmic staining in LNCaP cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue).
Low expression: PC-3.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Prostate Specific Antigen antibody [RM1268] (ab322442)

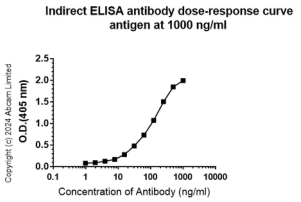
Immunohistochemical analysis of paraffin-embedded Human prostate carcinoma tissue labeling Prostate Specific Antigen with ab322442 at 1/4000 (0.122 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human prostate carcinoma. The section was incubated with ab322442 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

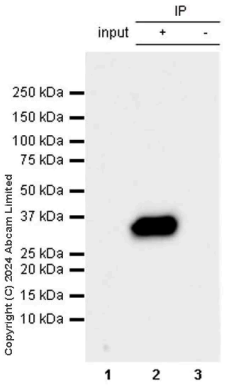


Indirect ELISA - Anti-Prostate Specific Antigen antibody [RM1268] (ab322442)

Indirect ELISA analysis of ab322442 at 1000-0 ng/ml. The Secondary antibody used was Alkaline Phosphatase-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L) at 1:2500 dilution.

Antigen: Human KLK3.

Antigen concentration: 1000 ng/ml



Immunoprecipitation - Anti-Prostate Specific Antigen antibody [RM1268] (ab322442)

Prostate Specific Antigen was immunoprecipitated from 0.35 mg LNCaP (human prostate carcinoma epithelial cell) whole cell lysate with ab322442 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab322442 at 1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: LNCaP (human prostate carcinoma epithelial cell) whole cell lysate
Lane 2: ab322442 IP in LNCaP (human prostate carcinoma epithelial cell) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab322257 in LNCaP whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST

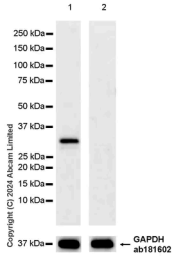
All lanes:
Immunoprecipitation - Anti-Prostate Specific Antigen antibody [RM1268] (ab322442) at 1/30 dilution

All lanes:
LNCaP (human prostate carcinoma epithelial cell) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 10s



Western blot - Anti-Prostate Specific Antigen antibody [RM1268] (ab322442)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Negative control: PC-3.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-Prostate Specific Antigen antibody [RM1268] (ab322442) at 1/1000 dilution

Lane 1:
LNCaP (human prostate carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
PC-3 (human prostate adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/20000 dilution

Observed band size: 34 kDa, 36 kDa

Exposure time: 180s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.