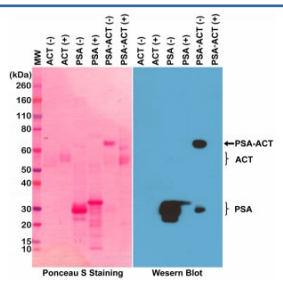
Prostate Specific Antigen Antibody for WB / PSA KLK3 Western Blot Antibody [clone RM323] (R20347)

Catalog No.	Formulation	Size
R20347-0.1ML	Antibody in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ul

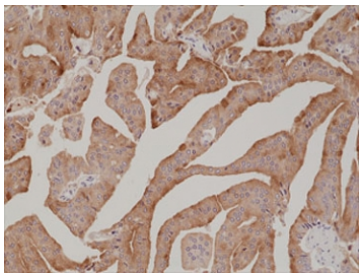
Recombinant RABBIT MONOCLONAL

Bulk quote request

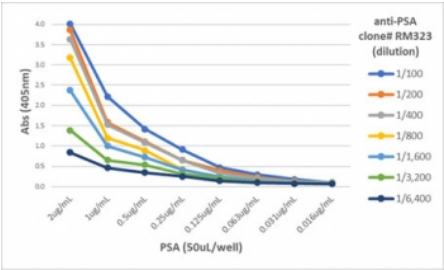
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM323
Purity	Protein A purified from animal origin-free supernatant
UniProt	P07288
Applications	Immunohistochemistry (FFPE) : 1:500-1:1000 Western Blot (Non-reduced) : 1:1000-1:2500 ELISA : 1:100-1:5000
Limitations	This Prostate Specific Antigen antibody is available for research use only.



Prostate Specific Antigen Antibody for WB western blot analysis of PSA and PSA-ACT complex. Western blot testing of purified PSA (from human seminal fluid), ACT (alpha 1-antichymotrypsin from human plasma), and the PSA-ACT complex under non-reducing (-) and reducing (+) conditions using Prostate Specific Antigen Antibody for WB (clone RM323) at 1:2500 shows a strong band corresponding to PSA at approximately 30-34 kDa. Under non-reducing conditions, a higher molecular weight band consistent with the PSA-ACT complex is observed near approximately 90 kDa, while the ACT control alone does not produce a detectable PSA band. Reduction disrupts the complex and results in detection of the PSA protein at its expected molecular weight. Ponceau S staining of the membrane is shown at left to confirm protein loading prior to immunoblot detection.



IHC staining of FFPE human prostate cancer tissue with recombinant Prostate Specific Antigen antibody at 1:1000.



A titer ELISA of PSA (purified from human seminal fluid). The plate was coated with different amounts of PSA. A serial dilution of recombinant Prostate Specific Antigen antibody was used as the primary. An alkaline phosphatase conjugated anti-rabbit IgG as the secondary.

Description

Prostate specific antigen (PSA), encoded by the KLK3 gene, is a secreted serine protease produced primarily by luminal epithelial cells of the prostate gland. PSA belongs to the kallikrein related peptidase family and is widely studied as a prostate derived protein involved in seminal fluid proteolysis. Prostate Specific Antigen Antibody for WB is designed for detection of PSA in protein samples separated by SDS-PAGE and analyzed by western blotting, allowing biochemical analysis of KLK3 expression in prostate tissues, cell lysates, and biological fluids.

Western blot analysis is commonly used to detect PSA protein following electrophoretic separation of complex protein mixtures. During SDS-PAGE under reducing conditions, disulfide bonds are disrupted and PSA migrates according to its molecular mass. The mature PSA protein typically resolves near approximately 30-34 kDa on SDS-PAGE gels, corresponding to the processed KLK3 enzyme. Apparent molecular weight can vary slightly depending on sample preparation and post-translational modifications such as glycosylation.

Because PSA is a secreted glycoprotein, immunoblot detection may reveal band shifts relative to the predicted molecular weight depending on glycosylation status and protein processing. PSA can be detected in prostate tissue lysates, prostate cancer cell lines, seminal plasma, and serum samples. Western blot analysis therefore provides a useful method for confirming PSA protein expression and verifying the presence of KLK3 in experimental samples.

Immunoblot detection of PSA is frequently used in studies examining prostate epithelial differentiation, prostate cancer biology, and secretion of prostate derived proteins. Analysis of PSA protein bands in electrophoresed samples allows researchers to confirm protein expression, evaluate sample purity, and examine KLK3 protein production in prostate derived cell systems.

A recombinant rabbit monoclonal Prostate Specific Antigen Antibody for WB such as clone RM323 provides a sensitive reagent for detecting PSA heavy bands in western blot experiments. Following transfer of SDS-PAGE separated proteins to a membrane, the antibody can be used to identify PSA protein bands corresponding to the KLK3 enzyme in prostate derived samples, supporting biochemical analysis of prostate specific proteins.

Application Notes

The stated application concentrations are suggested starting points. Titration of the Prostate Specific Antigen Antibody for WB may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Native PSA protein purified from human seminal fluid was used as the immunogen for the recombinant Prostate Specific Antigen antibody.

Storage

Store the Prostate Specific Antigen antibody at -20oC.

Alternate Names

PSA antibody, KLK3 antibody, Kallikrein related peptidase 3 antibody, Human prostate specific antigen antibody