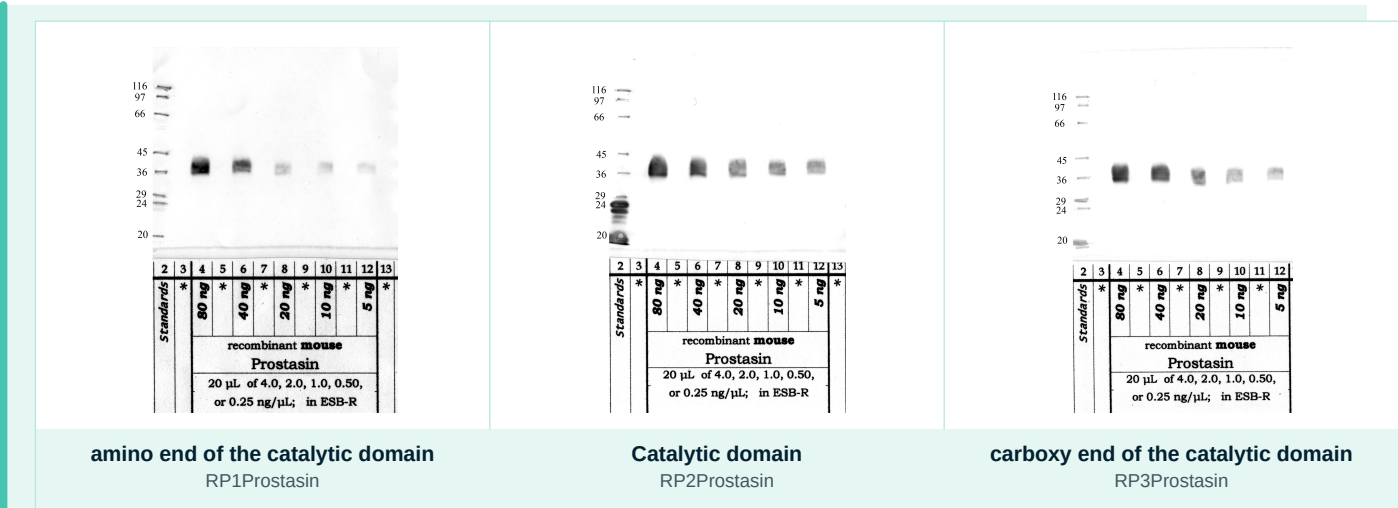


Anti-PRSS8 Rabbit Polyclonal Antibody

Prostasin EC 3.4.21.-, Channel-activating protease 1, CAP1, Serine protease 8, [Cleaved into: Prostasin light chain; Prostasin heavy chain

Gene: PRSS8 UniProt: Q16651 Host: Rabbit Clonality: Polyclonal (pAb)

Product Image



— Western Blot (4-panel validation across domain-specific antibody clones)

Actual Western blot validation for anti-PRSS8 rabbit polyclonal antibody. 4-panel validation across domain-specific antibody clones — each panel labeled with its catalog number and target domain. Reducing conditions; 10–20 µg/lane on 7.5–10% SDS-PAGE.

Key Product Facts

Supplier	Triple Point Biologics, Inc. (Sudbury, Ontario, Canada)
Product Name	Anti-PRSS8 Rabbit Polyclonal Antibody
Gene Symbol	PRSS8
Alternative Names	Prostasin EC 3.4.21.-, Channel-activating protease 1, CAP1, Serine protease 8, [Cleaved into: Prostasin light chain; Prostasin heavy chain
UniProt ID	Q16651
Host Species	Rabbit
Clonality	Polyclonal (pAb)
Isotype	IgG
Concentration	1mg/ml
Purity	Affinity purified
Pack Size	100ug
Validated Application	WB
Recommended Dilution	WB-1/1000
Species Reactivity	Validated- Human Potential-Mouse, Rat, Pan, Monkey, Dog
Immunogen Type	Synthetic Peptide from Uniprot Sequence
Conjugation	none
Buffer / Preservatives	Sodium Chloride 500 mM, Sodium Phosphate 10 mM, Potassium Phosphate 1.8 mM, Potassium Chloride 2.7 mM, Glycerol 50% (v/v)
Website	triplepointbiologics.com/anti-prostasin-rabbit-polyclonal-antibody

Available Domain-Specific Variants

Triple Point Biologics produces antibodies to defined structural domains of PRSS8. Each variant is directed at a specific structural region of the protein. Exact peptide sequences are proprietary; each variant is validated for the applications listed.

Domain / Variant	Epitope Region (approx. residues)	Cat. No.	Availability
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Amino end of the Catalytic domain	45–85 Region spanning the amino-terminal portion of the mature heavy chain (catalytic domain), immediately downstream of the predicted signal peptide and activation cleavage site, encompassing early beta-barrel scaffold elements of the trypsin-like fold	RP1Prostasin	In catalog
Catalytic domain	45–286 Region encompassing the full extent of the trypsin-like serine protease catalytic domain of prostasin, including the catalytic triad residues (His, Asp, Ser) and substrate-binding pocket, spanning from the activation site to the C-terminal boundary of the protease fold upstream of the GPI-anchor signal	RP2Prostasin	In catalog
Carboxy end of the Catalytic domain	246–286 Region covering the carboxy-terminal segment of the trypsin-like catalytic domain, proximal to the GPI-anchor attachment signal, including surface-exposed loops that contribute to exosite and secondary substrate-recognition features of the S1 fold	RP3Prostasin	In catalog
Linker region	~290–318 Region corresponding to the short linker segment connecting the C-terminal boundary of the serine protease catalytic domain to the hydrophobic GPI-anchor signal sequence, a structurally exposed stretch with no defined globular fold assignment in UniProt domain annotations	RP4Prostasin	In catalog
—	33–343 Broad region spanning from the N-terminus of the mature processed heavy chain through the catalytic domain and linker, encompassing multiple structural sub-regions of prostasin and suitable for detection of both the intact zymogen and processed forms of the protease	RP-Prostasin	In catalog

Applications & Recommended Dilutions

App.	Species	Dilution Range	Notes
WB	Validated-Human Potential-Mouse, Rat, Pan, Monkey, Dog	1:1000	Optimal dilution should be determined per laboratory and lot.

Optimal dilutions should be determined by each laboratory for each application. Triple Point Biologics antibodies include a peptide-neutralized negative control aliquot for specific-signal confirmation.

Storage & Handling

Short-term Storage	+4°C (1–2 weeks)
Long-term Storage	Aliquot and store at -20°C
Shipping Conditions	Shipped in styrofoam cooler on blue ice
Hazard Warning	Product may contain Sodium Azide — POISONOUS AND HAZARDOUS. Handle by trained personnel only.
Shelf Life	12 months from date of receipt under recommended conditions

Target Background

Protein Family & General Biology

Prostasin (gene symbol PRSS8, UniProt Q16651) is a 343-amino acid, GPI-anchored serine protease of the S1 (trypsin-like) family, classified under EC 3.4.21.-. It is synthesized as a single-chain zymogen and post-translationally processed into disulfide-linked light (activation peptide) and heavy (catalytic) chains. The catalytic triad (His, Asp, Ser) resides in the heavy chain. Prostasin exhibits trypsin-like specificity, preferring cleavage after basic residues, and its GPI anchor tethers it to the extracellular leaflet of the plasma membrane, restricting its proteolytic activity to the pericellular microenvironment.

Expression & Localization

Originally isolated from human seminal fluid and prostate glandular epithelium, prostasin is broadly expressed across secretory and absorptive epithelial tissues, including kidney tubules, pulmonary airway epithelium, colonic mucosa, and epidermis. Within polarized epithelial monolayers, the GPI anchor directs prostasin to the apical membrane. Prostasin is also detectable as a soluble form in urine, seminal plasma, and blood, arising from either GPI-anchor cleavage by phospholipases or shedding, providing a basis for its evaluation as a circulating biomarker in several disease contexts.

Activation Mechanism

Prostasin is secreted as an inactive zymogen and requires proteolytic activation at a conserved Arg-Ile (or equivalent) site to generate the mature, disulfide-linked two-chain form. Upstream activators include matriptase (ST14) and other membrane-anchored serine proteases of the HAT/DESC subfamily, establishing a cell-surface protease cascade. Conversely, prostasin itself can contribute to matriptase activation, constituting a reciprocal activation loop. Zymogen processing is tightly regulated at the epithelial surface to prevent unchecked proteolytic activity, with regulatory cross-talk between prostasin and its cognate inhibitors controlling the amplitude and duration of signaling.

Key Substrates & Inhibitor Profile

The best-characterized substrate of prostasin is the gamma subunit of the epithelial sodium channel (ENaC/SCNN1G). Prostasin cleaves within an extracellular inhibitory tract of SCNN1G, releasing a short suppressive peptide and markedly increasing channel open probability. This mechanism is central to sodium reabsorption in the renal collecting duct and distal airway surface liquid regulation. Additional validated substrates include the type III TGF- β co-receptor betaglycan (TGFB3), which is shed from the cell surface following prostasin-mediated ectodomain cleavage. Prostasin activity is inhibited by the Kunitz-type inhibitor HAI-1 (SPINT1), HAI-2 (SPINT2), and protease nexin-1 (SERPINE2), as well as by serine protease inhibitors with broad specificity such as aprotinin.

Disease Relevance

Through its regulation of ENaC activity, prostaticin is mechanistically linked to epithelial sodium homeostasis and blood pressure control. Elevated prostaticin expression or activity promotes sodium retention, connecting the protease to salt-sensitive hypertension. In the airway, prostaticin-dependent ENaC regulation affects airway surface liquid volume, with implications for cystic fibrosis and other mucociliary disorders. Prostaticin expression is reduced in several colorectal and gastric carcinomas, consistent with a tumor-suppressive role in certain epithelial lineages, whereas elevated urinary prostaticin has been reported in chronic kidney disease and nephrotic syndrome. Prostaticin also appears in plasma proteomic datasets associated with inflammatory bowel disease and psoriatic conditions.

Research Utility

Antibodies targeting discrete structural regions of prostaticin are required to distinguish the intact single-chain zymogen from the processed two-chain form, and to separately detect the light and heavy chains under reducing and non-reducing conditions. Because prostaticin undergoes both membrane-anchored and soluble forms, reagents validated across Western blot allow researchers to profile expression compartment by compartment — apical membrane, secreted/urinary fraction, and nuclear-excluded cytoplasm — without ambiguity introduced by cross-reactive paralogue signal from related S1 proteases.

Gene & Protein Reference

Gene Symbol	PRSS8
HGNC	HGNC:9477
NCBI Gene ID (Human)	5652
NCBI Gene ID (Mouse)	29870
Ensembl	ENSG00000159374
OMIM	600823
UniProt (Human)	Q16651
UniProt (Mouse)	Q9WU45
Protein Family	S1 (trypsin-like) serine protease family; GPI-anchored membrane serine protease subfamily
Predicted MW	~37 kDa (single-chain zymogen); heavy chain ~28 kDa, light chain ~10 kDa after processing
Observed MW	~45–50 kDa (glycosylated zymogen by SDS-PAGE); heavy chain ~30–35 kDa under reducing conditions
Chromosome	16p11.2
Paralogue	Tryptase family members; functionally related GPI-anchored serine proteases including PRSS22 (CAP2) and TMPRSS4 (CAP3)
Key Substrates	SCNN1G (ENaC gamma subunit), TGFBR3 (betaglycan ectodomain)
Activated by	Matriptase (ST14); other membrane-anchored serine proteases of the HAT/DESC subfamily
Inhibited by	HAI-1 (SPINT1), HAI-2 (SPINT2), protease nexin-1 (SERPINE2), aprotinin

About Triple Point Biologics

With over 30 years dedicated to antibody production, Triple Point Biologics is a Canadian company and the premier resource for proteinase and proteinase inhibitor research. Products have been cited in thousands of peer-reviewed publications.

The domain-specific antibody strategy — available in standard, ATK, SPA, and GSK kit formats — delivers predefined epitopes, built-in peptide-neutralized negative controls, and superior specificity for Western blot.

Website: www.triplepointbiologics.com

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Product specifications subject to change. Contact Triple Point Biologics for current product and availability information.