Anti-ADAMTS9 Rabbit Polyclonal Antibody

A disintegrin and metalloproteinase with thrombospondin motifs 9, ADAM-TS 9, ADAM-TS9, ADAMTS-9, EC 3.4.24.-,

Gene: ADAMTS9 **UniProt:** Q9P2N4 **Host:** Rabbit **Clonality:** Polyclonal (pAb)

Product Image

Image placeholder — Western Blot

— Western Blot

Suggested image: Western blot of relevant cell or tissue lysates under reducing conditions, probed with the domain-specific antibody. Include a positive-control lane and empty-vector or knockout negative control. Loading: 10–20 µg/lane on 7.5–10% SDS-PAGE.

Key Product Facts

Supplier	Triple Point Biologics, Inc. (Sudbury, Ontario, Canada)
Product Name	Anti-ADAMTS9 Rabbit Polyclonal Antibody
Gene Symbol	ADAMTS9
Alternative Names	A disintegrin and metalloproteinase with thrombospondin motifs 9, ADAM-TS 9, ADAM-TS9, ADAMTS-9, EC 3.4.24.-,
UniProt ID	Q9P2N4
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
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-adamts-9-rabbit-polyclonal-antibody

Available Domain-Specific Variants

Triple Point Biologics produces antibodies to defined structural domains of ADAMTS9. 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

Propeptide domain	**19–287** Region within the amino-terminal propeptide domain of ADAMTS9, upstream of the first furin cleavage site; this domain maintains zymogen latency via the cysteine-switch mechanism and is removed upon proprotein convertase processing	RP1ADAMTS9	In catalog
spacer between TS1 and TS2	**753–877** Region within the interdomain linker segment of ADAMTS9 situated between the first and second thrombospondin type-1 (TSP-1) repeats in the carboxy-terminal ancillary region, a segment implicated in substrate engagement and pericellular matrix interactions	RP2ADAMTS9	In catalog
between first and second furin site	**279–290** Region located between the two paired basic-residue furin cleavage sites of ADAMTS9; this segment is released as an intermediate processing fragment during sequential propeptide removal by proprotein convertases in the trans-Golgi network and extracellular space	RP3ADAMTS9	In catalog
carboxy end of propeptide domain	**267–287** Region at the carboxy-terminal boundary of the ADAMTS9 propeptide, immediately upstream of or flanking the first furin recognition motif; this sub-region participates in the cysteine-switch interaction with the catalytic zinc and is critical for maintaining latency prior to activation	RP4ADAMTS9	In catalog
Metalloproteinase domain	**293–499** Region within the reprolysin-type zinc-dependent metalloproteinase catalytic domain of ADAMTS9, which houses the conserved HEXXHXXGXXH zinc-binding motif and the Met-turn, and is directly responsible for endopeptidase cleavage of aggrecan, versican, and brevican substrates	RP5ADAMTS9	In catalog
—	**288–1935** Antigen spanning multiple domains of the ADAMTS9 protein, including propeptide, catalytic, disintegrin-like, cysteine-rich, spacer, and thrombospondin type-1 repeat regions; suitable for broad detection of full-length and processed ADAMTS9 isoforms	RP-ADAMTS9	In catalog

Applications & Recommended Dilutions

App.	Species	Dilution Range	Notes

WB	Validated-Human Potential-Mouse, Rat, Pan, Monkey	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

Family & General Biology

ADAMTS9 (A Disintegrin and Metalloproteinase with Thrombospondin Motifs 9) belongs to the ADAMTS family of secreted, multidomain zinc-dependent metalloproteinases. The family is distinguished from the related ADAMs by the presence of one or more thrombospondin type-1 (TSP-1) repeats in the carboxy-terminal ancillary region. ADAMTS9 is among the largest family members, comprising a signal peptide, propeptide, reprolysin-type catalytic domain, disintegrin-like domain, central TSP-1 repeat, cysteine-rich domain, spacer domain, and multiple additional TSP-1 repeats. The 1,935-residue protein (UniProt Q9P2N4) is encoded by one of the largest ADAMTS-encoding genes in the human genome.

Expression & Localisation

ADAMTS9 is broadly expressed during embryonic development and in adult tissues, with particularly notable levels in skeletal muscle, heart, placenta, and brain. Expression has also been documented in chondrocytes, vascular smooth muscle cells, endothelial cells, and fibroblasts. The proteinase is synthesized as a preproenzyme, secreted into the extracellular space, and associates with the pericellular matrix and cell surface through interactions with heparan sulfate proteoglycans. This pericellular localization concentrates its proteolytic activity at or near the cell surface, positioning it to remodel the immediate extracellular environment in a spatially regulated manner.

Activation Mechanism

Like other ADAMTS family members, ADAMTS9 is synthesized with an amino-terminal propeptide that maintains the zymogen in a latent state via a cysteine-switch mechanism, in which a conserved cysteine residue in the propeptide coordinates the catalytic zinc ion and prevents substrate access. The propeptide is removed by furin-type proprotein convertases at paired basic residue sites, and ADAMTS9 contains two such furin cleavage sites, enabling both intracellular (Golgi) and extracellular propeptide processing. Removal of the propeptide exposes the active-site cleft of the catalytic domain and generates the enzymatically competent form.

Key Substrates

ADAMTS9 is a verified aggrecanase, cleaving aggrecan at the Glu1771–Ala1772 bond (Glu1858–Ala1859 in the alternatively numbered precursor) within the interglobular domain, generating the characteristic ARGS neoepitope. Versican is similarly cleaved at the Glu1428–Ala1429 site in the β-GAG domain. Both substrates are large chondroitin sulfate-bearing proteoglycans of the lectican/hyalectan family. Additionally, ADAMTS9 has been shown to cleave brevican and to participate in endoplasmic reticulum-to-Golgi trafficking of secretory cargo proteins through a protease-independent mechanism involving its ancillary domains.

Disease Relevance

Genome-wide association studies have linked the ADAMTS9 locus to type 2 diabetes susceptibility, and functional studies suggest roles in pancreatic beta-cell biology and insulin secretion. In cartilage, ADAMTS9-mediated aggrecanolysis contributes to proteoglycan loss characteristic of osteoarthritis. The enzyme is implicated in vascular remodeling — haploinsufficiency in mice produces cardiovascular and craniofacial defects — and in ciliopathy pathogenesis, as ADAMTS9 promotes ciliogenesis by clearing versican from the periciliary matrix. Elevated expression has been reported in several cancers, where ECM remodeling by ADAMTS9 may influence tumor microenvironment architecture and metastatic potential.

Inhibition

The proteolytic activity of ADAMTS9 is subject to endogenous regulation by members of the tissue inhibitor of metalloproteinases (TIMP) family. TIMP-3 is the most potent physiological inhibitor of ADAMTS family aggrecanases, inhibiting ADAMTS9 through direct binding to the active-site cleft. Alpha-2-macroglobulin can also trap active ADAMTS proteinases in the extracellular space. Additionally, the enzyme is regulated at the level of substrate availability by versican and aggrecan interactions with hyaluronan and link proteins, which modulate access to scissile bonds. Heparan sulfate chains on cell-surface proteoglycans further modulate ADAMTS9 activity by influencing its pericellular localization.

Gene & Protein Reference

Gene Symbol	ADAMTS9
HGNC	HGNC:13202
NCBI Gene ID (Human)	10507
NCBI Gene ID (Mouse)	240322
Ensembl	ENSG00000163638
OMIM	605421
UniProt (Human)	Q9P2N4
UniProt (Mouse)	Q5SXR6
Protein Family	ADAMTS family; lectican/hyalectan aggrecanase subgroup (with ADAMTS1, 4, 5, 15)
Predicted MW	~213 kDa (full-length preproenzyme); processed forms vary by furin cleavage
Observed MW	~200–250 kDa by SDS-PAGE (variable due to glycosylation and furin processing)
Chromosome	3p14.3–p14.2
Paralogue	ADAMTS20 (closest paralogue; shares extended TSP-1 repeat array)

Key Substrates	Aggrecan (Glu1771–Ala1772 IGD site), versican (Glu1428–Ala1429 β-GAG domain), brevican
Activated by	Furin-type proprotein convertases (intracellular and extracellular propeptide removal); autocatalytic processing
Inhibited by	TIMP-3 (primary endogenous inhibitor); alpha-2-macroglobulin

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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