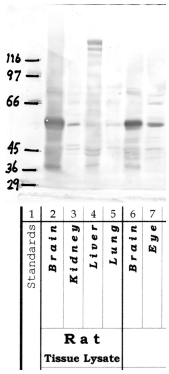
Anti-ADAMTS14 Rabbit Polyclonal Antibody

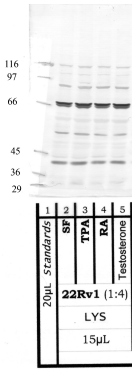
A disintegrin and metalloproteinase with thrombospondin motifs 14, ADAM-TS 14, ADAM-TS14, ADAMTS-14, EC 3.4.24.-,

Gene: ADAMTS14 **UniProt:** Q8WXS8 **Host:** Rabbit **Clonality:** Polyclonal (pAb)

Product Image



Propeptide domain
RP1ADAMTS14



Metalloproteinase domain
RP2ADAMTS14

— Western Blot (2-panel validation across domain-specific antibody clones)

Actual Western blot validation for anti-ADAMTS14 rabbit polyclonal antibody. 2-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-ADAMTS14 Rabbit Polyclonal Antibody
Gene Symbol	ADAMTS14
Alternative Names	A disintegrin and metalloproteinase with thrombospondin motifs 14, ADAM-TS 14, ADAM-TS14, ADAMTS-14, EC 3.4.24.-,
UniProt ID	Q8WXS8
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-adamts-14-rabbit-polyclonal-antibody

Available Domain-Specific Variants

Triple Point Biologics produces antibodies to defined structural domains of ADAMTS14. 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	**23–252** Region spanning the N-terminal prodomain of human ADAMTS14, which maintains enzyme latency via a cysteine-switch mechanism; this domain is removed by furin-like convertases to yield the active protease and lies immediately upstream of the catalytic domain	RP1ADAMTS14	In catalog
Metalloproteinase domain	**259–460** Region within the reprolysin-type zinc-dependent catalytic (metalloproteinase) domain of human ADAMTS14, which houses the conserved HEXXHXXGXXH zinc-binding motif and the methionine turn, and is responsible for N-propeptide cleavage of fibrillar procollagens	RP2ADAMTS14	In catalog
—	**253–1223** Region spanning multiple domains of the ADAMTS14 ectodomain, encompassing elements of the prodomain, metalloproteinase domain, disintegrin-like domain, and/or thrombospondin type-1 repeat modules, making it broadly reactive to the full-length and processed forms of the protein	RP-ADAMTS14	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

Family & General Biology

ADAMTS14 belongs to the ADAMTS (a disintegrin and metalloproteinase with thrombospondin motifs) family of secreted, zinc-dependent metalloproteinases. The family is defined by a reprolysin-type catalytic domain, a disintegrin-like domain, and one or more C-terminal thrombospondin type-1 (TSP-1) repeat modules that mediate extracellular matrix (ECM) binding and substrate targeting. ADAMTS14 is most closely related to ADAMTS2 and ADAMTS3, together forming the procollagen N-proteinase subgroup. All three members cleave the N-propeptide of fibrillar procollagens, and ADAMTS14 shares approximately 57% amino acid identity with ADAMTS2 in the catalytic domain.

Expression & Localisation

ADAMTS14 is expressed in a range of connective tissues, with relatively high transcript levels detected in skin, bone, cartilage, and tendon. Expression has also been reported in the placenta and in several epithelial tissues. The protein is synthesised as a pre-proenzyme and is secreted into the pericellular and extracellular environment, where it associates with the ECM via its thrombospondin repeat modules. Unlike ADAMTS2, which is broadly expressed in fibroblasts, ADAMTS14 displays a more restricted and tissue-specific distribution, suggesting it fulfils specialised roles in procollagen processing at defined anatomical sites.

Activation Mechanism

ADAMTS14 is synthesised with an N-terminal signal peptide and a prodomain that maintains the enzyme in a latent conformation through a cysteine-switch mechanism, in which a conserved cysteine residue in the propeptide coordinates the catalytic zinc ion. Prodomain removal, a prerequisite for full enzymatic activity, is accomplished by furin-type proprotein convertases acting on a consensus RXXR motif at the propeptide–catalytic domain boundary. Processing is believed to occur in the trans-Golgi network prior to secretion, yielding the active two-chain or single-chain form detected extracellularly.

Key Substrates

The principal substrate of ADAMTS14 is the N-propeptide of type I procollagen, which it cleaves at the canonical N-proteinase site to generate mature collagen I monomers competent for fibril assembly. ADAMTS14 can compensate for ADAMTS2 deficiency in type I collagen processing, though its efficiency against type II and type III procollagens is comparatively lower. A secondary substrate is lysyl oxidase (LOX): ADAMTS14 cleaves LOX downstream of its propeptide site, generating a truncated LOX form with potentially altered cross-linking activity. Substrate specificity is influenced by the TSP-1 repeat and ancillary domain architecture.

Inhibitor Profile

Like other ADAMTS family members, ADAMTS14 is susceptible to inhibition by the tissue inhibitors of metalloproteinases (TIMPs), with TIMP-3 reported as the most potent endogenous inhibitor of ADAMTS enzymes in the ECM compartment. Alpha-2-macroglobulin can also sequester active ADAMTS proteases as a broad-spectrum trap. Specific small-molecule or protein inhibitors selective for ADAMTS14 have not been characterised to the same extent as for ADAMTS4 or ADAMTS5; this gap makes ADAMTS14 an area of ongoing biochemical interest.

Disease Relevance

Genetic variants in ADAMTS14 have been associated with susceptibility to gastric cancer in population-based studies. In colorectal cancer, ADAMTS14 expression has been linked to stem-cell-like properties and tumour progression. Reduced or altered ADAMTS14 activity has been implicated in osteoarthritis pathogenesis, consistent with the enzyme's role in maintaining cartilage ECM homeostasis through procollagen maturation. Promoter hypermethylation of ADAMTS14 has been identified as a silencing mechanism in certain tumour types, suggesting a potential tumour-suppressive function in ECM remodelling contexts. Collectively, these findings place ADAMTS14 at the intersection of matrix biology and oncology.

Gene & Protein Reference

Gene Symbol	ADAMTS14
HGNC	HGNC:15458
NCBI Gene ID (Human)	29119
NCBI Gene ID (Mouse)	240913
Ensembl	ENSG00000138193
OMIM	607509
UniProt (Human)	Q8WXS8
UniProt (Mouse)	Q8BPZ5
Protein Family	ADAMTS family; procollagen N-proteinase subgroup (with ADAMTS2 and ADAMTS3)
Predicted MW	~136 kDa (1,223 aa; Q8WXS8)
Observed MW	~100–140 kDa (variable due to glycosylation and propeptide processing)
Chromosome	10q21.3
Paralogue	ADAMTS2, ADAMTS3
Key Substrates	Type I procollagen N-propeptide; lysyl oxidase (LOX)
Activated by	Furin-type proprotein convertases (RXXR-site cleavage of prodomain)
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