Anti-ADAM19 Rabbit Polyclonal Antibody

Disintegrin and metalloproteinase domain-containing protein 19, ADAM 19, EC 3.4.24.-, Meltrin-beta, Metalloprotease and disintegrin dendritic antigen marker, MADDAM,

Gene: ADAM19 **UniProt:** Q9H013 **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-ADAM19 Rabbit Polyclonal Antibody
Gene Symbol	ADAM19
Alternative Names	Disintegrin and metalloproteinase domain-containing protein 19, ADAM 19, EC 3.4.24.-, Meltrin-beta, Metalloprotease and disintegrin dendritic antigen marker, MADDAM,
UniProt ID	Q9H013
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-adam-19-rabbit-polyclonal-antibody

Available Domain-Specific Variants

Triple Point Biologics produces antibodies to defined structural domains of ADAM19. 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	**26–202** Region spanning the prodomain (signal peptide-proximal latency-maintaining domain) of human ADAM-19, which contains the conserved cysteine-switch motif responsible for coordinating the catalytic zinc ion and maintaining zymogen latency prior to furin-mediated activation in the trans-Golgi network	RP1ADAM19	In catalog
Cytoplasmic domain	**721–955** Region within the intracellular C-terminal cytoplasmic tail of human ADAM-19, located downstream of the single-pass transmembrane anchor; this domain contains putative SH3-binding motifs and proline-rich sequences implicated in intracellular signalling and cytoskeletal interactions	RP2ADAM19	In catalog
Amino end active ADAM-19	**203–253** Region encompassing the N-terminal portion of the mature, processed ADAM-19 ectodomain, including the zinc-dependent metalloprotease catalytic domain with its conserved HEXXHXXGXXH zinc-binding motif, representing the catalytically active form of the enzyme after prodomain removal	RP3ADAM19	In catalog
—	**203–955** Broad multi-domain region of human ADAM-19 spanning from the prodomain through the metalloprotease, disintegrin, cysteine-rich, and EGF-like extracellular domains, providing coverage of multiple functional segments of the ectodomain architecture upstream of the transmembrane anchor	RP-ADAM19	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

ADAM-19 (meltrin-beta, MADDAM) is a member of the ADAM (A Disintegrin And Metalloproteinase) family of zinc-dependent, membrane-anchored proteases. ADAMs are type I transmembrane proteins characterised by a conserved domain architecture: prodomain, metalloprotease domain, disintegrin domain, cysteine-rich domain, EGF-like domain, transmembrane anchor, and cytoplasmic tail. The family mediates ectodomain shedding of cell-surface proteins including growth factors, cytokines, and adhesion molecules, thereby regulating intercellular signalling and extracellular matrix remodelling. ADAM-19 encodes 955 amino acids with a predicted molecular weight of approximately 106 kDa before post-translational processing.

Expression & Localisation

ADAM-19 is broadly expressed during embryonic development, with particularly strong representation in the developing nervous system, heart, and skeletal muscle. In adult tissues, expression is sustained in the brain, lung, kidney, and immune-competent cells including dendritic cells — the latter giving rise to the MADDAM designation. The protein localises to the plasma membrane as a type I transmembrane protease, with its catalytic metalloprotease domain oriented extracellularly. Intracellularly processed forms may also be detected in endosomal compartments following receptor-mediated internalisation. Transcript and protein abundance are dynamically upregulated during inflammatory and fibrotic responses.

Activation Mechanism

Like other ADAM proteases, ADAM-19 is synthesised as a latent zymogen. The N-terminal prodomain maintains latency through a cysteine-switch mechanism, in which a conserved cysteine residue coordinates the active-site zinc ion and occludes substrate access. Autocatalytic or furin-mediated cleavage at a consensus RXXR motif in the trans-Golgi network removes the prodomain, generating the catalytically competent mature enzyme that is then trafficked to the cell surface. Additional shedding of the ADAM-19 ectodomain itself has been documented, producing soluble forms detectable in conditioned media and biological fluids.

Key Substrates & Signalling Roles

ADAM-19 cleaves beta-type neuregulin isoforms (NRG-1β among others), regulating ligand availability for ErbB2/ErbB3/ErbB4 receptor tyrosine kinases and thereby modulating downstream MAPK and PI3K–Akt signalling critical for Schwann cell differentiation, myelination, and synaptic plasticity. The enzyme also processes alpha-2-macroglobulin and has been implicated in shedding of additional substrates involved in osteoblast differentiation and bone remodelling. Through neuregulin processing, ADAM-19 participates in bidirectional neuron–glia communication, and its substrate repertoire situates it at the intersection of growth factor signalling and pericellular proteolysis.

Inhibitor Profile

ADAM-19 metalloprotease activity is sensitive to hydroxamate-based broad-spectrum metalloprotease inhibitors such as GM6001 (ilomastat) and batimastat. The endogenous tissue inhibitors of metalloproteinases (TIMPs), particularly TIMP-3, suppress ADAM family sheddase activity, though selectivity profiles across individual ADAMs vary. No ADAM-19-selective small-molecule inhibitor has achieved widespread clinical adoption to date. Chelating agents that strip the catalytic zinc ion, including EDTA and 1,10-phenanthroline, abolish enzymatic activity in vitro and serve as useful controls in substrate-cleavage

assays.

Disease Relevance

Dysregulated ADAM-19 expression has been associated with pathological tissue remodelling in multiple organ systems. In the context of peritoneal fibrosis, elevated ADAM-19 levels correlate with mesothelial-to-mesenchymal transition and extracellular matrix deposition. In oncology, altered ADAM-19 expression has been reported in glioma, lung, and other carcinomas, where its sheddase activity may influence tumour microenvironment composition and ErbB-dependent proliferative signalling. In the cardiovascular system, ADAM-19 participates in cardiac morphogenesis, and its deficiency in murine models produces defects in cardiac valve and trabeculation formation. These findings collectively make ADAM-19 a target of interest in fibrotic, neurological, and oncological research programmes.

Gene & Protein Reference

Gene Symbol	ADAM19
HGNC	ADAM19
NCBI Gene ID (Human)	8728
NCBI Gene ID (Mouse)	11491
Ensembl	ENSG00000135074
OMIM	603640
UniProt (Human)	Q9H013
UniProt (Mouse)	Q9Z1N6
Protein Family	ADAM (A Disintegrin And Metalloproteinase) family; M12B subfamily of metzincin metalloproteinases
Predicted MW	~106 kDa (955 aa; pre-processing)
Observed MW	~90–100 kDa (mature, processed form; prodomain-removed); soluble ectodomain ~70–80 kDa
Chromosome	5q33.3
Paralogue	ADAM12 (meltrin-alpha); ADAM33
Key Substrates	Neuregulin-1β (NRG-1β); alpha-2-macroglobulin (A2M); additional ErbB ligand family members
Activated by	Furin-mediated and/or autocatalytic prodomain cleavage at RXXR motif in trans-Golgi network; cysteine-switch mechanism
Inhibited by	TIMP-3; hydroxamate-based broad-spectrum MMP/ADAM inhibitors (GM6001/ilomastat, batimastat); zinc-chelating agents (EDTA, 1,10-phenanthroline)

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.