

Anti-HMCN1 Rabbit Polyclonal Antibody

Chitinase-3-like protein 2 Chondrocyte protein 39, YKL-39,

Gene: HMCN1 **UniProt:** Q15782 **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-HMCN1 Rabbit Polyclonal Antibody
Gene Symbol	HMCN1
Alternative Names	Chitinase-3-like protein 2 Chondrocyte protein 39, YKL-39,
UniProt ID	Q15782
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
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-hemicentin-rabbit-polyclonal-antibody

Available Domain-Specific Variants

Triple Point Biologics produces antibodies to defined structural domains of HMCN1. 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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Carboxyterminal end	340–390 Region within the C-terminal fibulin-type module of human Hemicentin-1, encompassing the conserved fibulin domain that defines fibulin family membership and is located at the extreme carboxy-terminus of the mature protein downstream of the immunoglobulin-like repeat array	RP4Chitinase3 Like2	In catalog
VWFA Domain	~169–352 Region within the von Willebrand factor type A (VWFA) domain located near the N-terminal portion of human Hemicentin-1, upstream of the large central immunoglobulin-like repeat array; this domain mediates protein–protein interactions and contributes to matrix assembly	RP5Chitinase3 Like2	In catalog
IgG-Like C2-Type 24-25	~3200–3380 Region spanning immunoglobulin-like C2-type repeats 24–25 within the central tandem repeat array of human Hemicentin-1, a structurally repetitive region that constitutes the majority of the protein's length and mediates lateral interactions within basement membrane networks	RP1Hemicentin	In catalog
Mid molecule	~2700–2900 Region in the mid-molecule segment of human Hemicentin-1 situated within the central immunoglobulin-like C2-type repeat array, distal from both the N-terminal VWFA domain and the C-terminal fibulin module, representing the structural core of the protein	RP2Hemicentin	In catalog
Calcium-Binding EGF-Like Domain	~400–500 Region encompassing one or more calcium-binding EGF-like domains located proximal to the N-terminal VWFA domain of human Hemicentin-1, within the segment that transitions between the VWFA module and the start of the immunoglobulin-like repeat array; calcium coordination by this domain is implicated in stabilizing local protein conformation	RP3Hemicentin	In catalog
—	27–390 Broad multi-domain region spanning the VWFA domain, calcium-binding EGF-like modules, the full central immunoglobulin-like C2-type repeat array, and the C-terminal fibulin module of human Hemicentin-1; suitable for general detection applications where domain-specific epitope selection is not required	RP-Hemicentin	In catalog

Applications & Recommended Dilutions

App.	Species	Dilution Range	Notes
WB	Validated-Human Potential	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

Hemicentin-1 (HMCN1), also designated Fibulin-6, is a member of the fibulin family of secreted extracellular matrix glycoproteins. At 5,635 amino acids it is one of the largest ECM proteins characterized in vertebrates. Its domain architecture is dominated by a tandem array of immunoglobulin-like C2-type repeats flanked by EGF-like calcium-binding modules, a von Willebrand factor type A (VWFA) domain, and a C-terminal fibulin-type module. This modular organization is broadly conserved from nematodes to humans, reflecting deep evolutionary roles in basement membrane assembly and tissue architecture.

Expression & Localisation

HMCN1 is expressed in multiple tissue compartments, with particularly robust expression detected in the kidney glomerulus, cardiac tissue, retina, skin, and reproductive organs. The protein is secreted and localizes to basement membranes, where it associates with laminin networks and other matrix components to reinforce the structural scaffold underlying epithelial and endothelial cell layers. In the kidney, HMCN1 is concentrated in the glomerular basement membrane and in the extracellular matrix immediately adjacent to podocyte foot processes, consistent with a structural role in the filtration barrier.

Function in Basement Membrane Remodeling

HMCN1 participates in TGF-β-dependent remodeling of the extracellular matrix and directly influences podocyte cytoskeletal organization. Exposure of podocytes to TGF-β leads to redistribution and reduction of F-actin stress fibers and characteristic morphological changes that are modulated by HMCN1. Beyond the kidney, HMCN1 contributes to the structural integrity of epithelial cell junctions, assists in the organization of basement membrane zones at sites of high mechanical stress, and has been implicated in the guidance of cell migration during tissue remodeling—including fibroblast migration in the myocardium.

Developmental Roles

Genetic studies in model organisms and human developmental cohorts have established roles for HMCN1 during embryogenesis. In preimplantation embryonic development, HMCN1 contributes to cytokinesis, likely through its association with basement membrane structures at the interface of dividing blastomeres. Loss-of-function data from *C. elegans* hemicentin orthologs demonstrate that hemicentin is required for cell junction organization and the correct positioning of embryonic cleavage furrows—a functional role that appears conserved in vertebrate biology.

Disease Relevance

HMCN1 variants have been linked to a spectrum of disorders affecting tissues reliant on basement membrane integrity. Associations have been reported with age-related macular degeneration, reflecting the protein's structural role in Bruch's membrane and the retinal pigment epithelium basement membrane. Glomerular disease is a key area of investigation given HMCN1's concentration in the podocyte niche. Emerging genetic evidence further positions HMCN1 variants as modifiers of phenotypic severity in connective tissue and basement membrane disorders, expanding the recognized disease spectrum beyond initially described Mendelian associations.

Cardiac & Fibrotic Contexts

In cardiac tissue, HMCN1 expression influences fibroblast behavior during myocardial remodeling following injury. Hemicentin-1 deposited in the interstitial and perivascular matrix appears to regulate the migratory capacity of cardiac fibroblasts, with potential downstream consequences for fibrotic scar formation and ventricular remodeling. This role positions HMCN1 as a mechanistically relevant target in the study of cardiac fibrosis, complementing its better-characterized functions in epithelial and glomerular basement membrane biology.

Gene & Protein Reference

Gene Symbol	HMCN1
HGNC	HMCN1
NCBI Gene ID (Human)	83872
NCBI Gene ID (Mouse)	381171
Ensembl	ENSG00000143382
OMIM	608548
UniProt (Human)	Q15782
UniProt (Mouse)	A2AJL7
Protein Family	Fibulin family (Fibulin-6); extracellular matrix glycoprotein
Predicted MW	~613 kDa (5,635 aa precursor)
Observed MW	~600–630 kDa (variable due to glycosylation; typically detected as high-MW band on SDS-PAGE)
Chromosome	1q25.3–q31.1
Paralogue	Hemicentin-2 (HMCN2); Fibulin-1 (FBLN1); Fibulin-2 (FBLN2)

Key Substrates	Not applicable as a structural ECM protein; interacts with laminin, nidogen, and fibronectin networks within basement membranes
Activated by	TGF- β signaling (upregulates HMCN1-mediated cytoskeletal remodeling in podocytes); mechanical stress signals in cardiac and epithelial tissues
Inhibited by	No well-characterized endogenous inhibitors identified to date

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.