Anti-ARMS2 Rabbit Polyclonal Antibody

Age-related maculopathy susceptibility protein 2

Gene: ARMS2 **UniProt:** P0C7Q2 **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-ARMS2 Rabbit Polyclonal Antibody
Gene Symbol	ARMS2
Alternative Names	Age-related maculopathy susceptibility protein 2
UniProt ID	P0C7Q2
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-armsp-2-rabbit-polyclonal-antibody

Available Domain-Specific Variants

Triple Point Biologics produces antibodies to defined structural domains of ARMS2. 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

Carboxyterminal end	**57–107** Region spanning the C-terminal tail of human ARMS2, encompassing the final approximately 25–30 residues of the 107-amino acid protein; this region is distal to the central portion of the polypeptide and is not assigned to any characterised structural domain in UniProt, consistent with the protein's overall lack of annotated domain architecture	RP1ARMSP2	In catalog
—	**1–107** Epitope distributed across the full-length ARMS2 polypeptide; because ARMS2 is a 107-amino acid protein with no defined subdomains in UniProt, this multi-domain immunogen presents determinants from both the N-terminal and C-terminal regions of the mature protein, providing broad coverage for detection across diverse experimental contexts	RP-ARMSP2	In catalog
Aminotermional end	**1–51** Region spanning the N-terminal portion of human ARMS2, approximately within the first 30 residues of the 107-amino acid polypeptide; this segment precedes the central body of the protein and, consistent with the overall UniProt annotation, falls outside any defined catalytic or binding domain	RP4Heparanase2	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

Gene Locus and Genetic Architecture

ARMS2 (age-related maculopathy susceptibility protein 2) is encoded by a gene residing at chromosome 10q26, a locus that has consistently emerged as one of the two strongest genetic determinants of age-related macular degeneration (AMD) risk across multiple large-scale genome-wide association studies. The ARMS2 gene sits in tight linkage disequilibrium with the adjacent serine protease gene HTRA1, a physical proximity that has historically complicated efforts to assign independent causal roles to each locus. Disentangling the relative contributions of ARMS2 and HTRA1 variants to AMD pathogenesis remains an active area of genetic and functional investigation.

Protein Structure and Expression

ARMS2 encodes a small protein of 107 amino acids (UniProt P0C7Q2) with a predicted molecular weight of approximately 12 kDa. The protein lacks recognizable catalytic domains or signal peptides, and no high-resolution crystal structure has been published. Expression is detected predominantly in retinal tissue, with evidence of expression in placenta and several other tissues at lower levels. Within the retina, ARMS2 protein has been reported in photoreceptor inner segments and the outer plexiform layer. Its cytoplasmic localisation has been described in multiple cell-based studies, though early reports of mitochondrial association remain debated.

Functional Hypotheses and Molecular Role

Despite its strong disease association, the biochemical function of ARMS2 remains incompletely defined. The protein lacks sequence homology to well-characterised protein families, hindering functional inference. Proposed roles have included complement pathway modulation, regulation of extracellular matrix remodelling, and interaction with components of the oxidative stress response. Some studies have reported that ARMS2 can associate with complement activators at drusen deposits beneath the retinal pigment epithelium, suggesting a possible role in local complement regulation. No definitive enzymatic activity, canonical binding partner, or obligate substrate has been assigned to ARMS2 to date.

Key Risk Variants and Linkage Disequilibrium

The most studied coding variant in ARMS2 is the A69S single-nucleotide polymorphism (rs10490924), which confers a population-attributable risk among the highest of any AMD-associated allele. A deletion/insertion polymorphism in the ARMS2 3′ UTR (del443ins54) is in near-complete linkage disequilibrium with A69S and disrupts an AU-rich mRNA destabilisation element, reducing ARMS2 transcript stability. This structural variant also partially overlaps the HTRA1 promoter region, reinforcing the interpretive complexity of this haplotype block. Homozygous carriers of the risk haplotype carry substantially elevated odds of developing advanced AMD compared to non-carriers.

Disease Relevance: Age-Related Macular Degeneration

AMD is the leading cause of irreversible central vision loss in adults over 60 years in the developed world, with both geographic atrophy (dry AMD) and choroidal neovascularisation (wet AMD) as advanced manifestations. The chromosome 10q26 risk haplotype encompassing ARMS2/HTRA1 confers elevated risk for both subtypes. ARMS2 protein has been detected in drusen, the extracellular deposits that are a hallmark of early AMD, linking the protein's localisation to the primary site of AMD pathology. Understanding whether ARMS2 loss-of-function or gain-of-function mechanisms drive disease remains a key open question for the field.

Research Utility

Antibodies to ARMS2 are used to characterise protein expression in human retinal sections, iPSC-derived retinal pigment epithelium models, and drusen isolates by Western blot, immunohistochemistry, and immunofluorescence. Because the endogenous protein is small and expressed at comparatively low levels, validated reagents with well-defined epitope regions are particularly important for reproducible detection. Distinguishing ARMS2 signal from background requires careful optimisation of antigen retrieval and blocking conditions, especially in fixed ocular tissue where autofluorescence and non-specific binding are common confounders.

Gene & Protein Reference

Gene Symbol	ARMS2
HGNC	HGNC:33681
NCBI Gene ID (Human)	387715
NCBI Gene ID (Mouse)	N/A — no confirmed orthologue
Ensembl	ENSG00000197965
OMIM	611313
UniProt (Human)	P0C7Q2
UniProt (Mouse)	N/A — no confirmed mouse orthologue
Protein Family	No assigned family; small protein of unknown function; proposed complement-related role
Predicted MW	~12 kDa (107 aa, UniProt P0C7Q2)
Observed MW	~12 kDa on SDS-PAGE (reported in retinal tissue lysates)
Chromosome	10q26.13
Paralogue	None established
Key Substrates	None confirmed
Activated by	Unknown
Inhibited by	Unknown

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