

Anti-AEBP1 Rabbit Polyclonal Antibody

Adipocyte enhancer-binding protein 1, AE-binding protein 1, Aortic carboxypeptidase-like protein,

Gene: AEBP1 **UniProt:** Q8IUX7 **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-AEBP1 Rabbit Polyclonal Antibody
Gene Symbol	AEBP1
Alternative Names	Adipocyte enhancer-binding protein 1, AE-binding protein 1, Aortic carboxypeptidase-like protein,
UniProt ID	Q8IUX7
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-aebp-1-rabbit-polyclonal-antibody

Available Domain-Specific Variants

Triple Point Biologics produces antibodies to defined structural domains of AEBP1. 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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Aminoterminal end full length AEBP1	26–76 Region spanning the signal peptide and N-terminal discoidin-like domain of full-length human AEBP1, upstream of the carboxypeptidase-like catalytic domain; this region participates in early folding and potential cell-surface or matrix interactions and is present in all documented isoforms of the full-length protein	RP1AEBP1	In catalog
Aminoterminal end 845 AA AEBP1	26–76 Region within the N-terminal discoidin-like domain of the 845-amino-acid AEBP1 variant, encompassing the signal peptide cleavage site and the proximal extracellular-facing surface that precedes the carboxypeptidase-like catalytic core in this truncated isoform context	RP2AEBP1	In catalog
Catalytic domain	563–904 Region within the central carboxypeptidase-like catalytic domain of human AEBP1, encompassing the predicted zinc-binding motif and substrate-binding pocket; this domain shares structural homology with M14-family metallocarboxypeptidases but has not been shown to possess classical carboxypeptidase activity toward standard substrates	RP3AEBP1	In catalog
DNA-binding domain	390–555 Region in the C-terminal portion of human AEBP1 associated with its transcriptional repressor activity, including residues reported to interact with the adipocyte enhancer element of the FASN promoter and the PTEN promoter; this region is relevant to the nuclear isoform of AEBP1 and is distinct from the extracellular collagen-binding interface	RP4AEBP1	In catalog
—	26–1158 Immunogen spanning multiple structural domains of full-length human AEBP1, including the N-terminal discoidin-like domain, the central carboxypeptidase-like catalytic domain, and the C-terminal transcriptional regulatory region; this broad coverage makes the antibody suitable for detecting multiple isoforms and denatured or native AEBP1 across diverse experimental contexts	RP-AEBP1	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

General Biology & Protein Family

Adipocyte enhancer-binding protein 1 (AEBP1) is a multidomain secreted protein of 1,158 residues (UniProt Q8IUX7) that belongs to the M14 metallocarboxypeptidase family. Despite carrying a carboxypeptidase-like domain, its proteolytic activity toward classical carboxypeptidase substrates has not been firmly established, and the protein is now recognised primarily as an extracellular matrix organiser. AEBP1 was first characterised as a transcriptional repressor binding the adipocyte enhancer of the fatty acid synthase gene, but subsequent work has established its extracellular functions as the dominant biological role in most adult tissues.

Expression & Localisation

AEBP1 is expressed predominantly in fibroblasts, smooth muscle cells, and adipocytes, with notable expression in aortic wall, skin dermis, heart, and uterus. The protein carries a signal peptide that directs it through the secretory pathway; it is released into the pericellular and extracellular space, where it associates with fibrillar collagens and other matrix components. Within the nucleus, a splice variant lacking the signal peptide has been reported in some cell types, consistent with the protein's originally described role as a transcription factor. Intracellular and secreted pools are therefore likely to perform distinct functions depending on cell type and physiological context.

Role in Collagen Fibrillogenesis

Extracellular AEBP1 is a positive regulator of collagen fibrillogenesis. It interacts directly with fibrillar collagens — most notably collagen types I and III — and promotes lateral fibril assembly and cross-linking. Loss of AEBP1 in murine models results in fragile, disorganised collagen fibrils with reduced tensile strength, a phenotype overlapping with connective tissue disorders. The protein is thought to act as a scaffold or chaperone during fibril nucleation, potentially coordinating with other fibril-associated collagens and proteoglycans to determine final fibril diameter and spacing within the extracellular matrix.

Activation Mechanism & Regulatory Context

AEBP1 secretion and activity are regulated at the transcriptional level by pro-fibrotic signals including TGF- β 1, which upregulates AEBP1 expression in fibroblasts and myofibroblasts. In the nucleus, AEBP1 has been reported to suppress PTEN expression by binding to the PTEN promoter, thereby amplifying PI3K/AKT signalling and indirectly promoting cell survival and proliferation. The extracellular pool of AEBP1 does not appear to require proteolytic activation in the conventional zymogen sense; rather, its matrix-organising function is constitutive once secreted, though local ECM composition and pH may modulate its collagen-binding affinity.

Disease Relevance

AEBP1 is implicated in a range of fibrotic and connective tissue pathologies. Heterozygous loss-of-function variants in AEBP1 cause a musculocontractural form of Ehlers-Danlos syndrome (mcEDS-AEBP1), characterised by skin hyperextensibility, joint hypermobility, and collagen fibril ultrastructural abnormalities. Elevated AEBP1 expression is documented in cardiac fibrosis, where it correlates with increased collagen deposition and myocardial stiffness. The protein has also been identified as upregulated in endometriosis-associated fibrogenesis and in multiple cancer-associated stromal environments, where fibroblast-derived AEBP1 remodels the tumour matrix. Its dual nuclear and extracellular activities make it a mechanistically complex target in fibrotic disease research.

Utility as an Antibody Target

The domain architecture of AEBP1 — comprising an N-terminal discoidin-like domain, a central carboxypeptidase-like catalytic domain, and a C-terminal domain — provides multiple immunogenic regions suitable for antibody generation. The aminoterminal and catalytic domain regions are of particular interest because they are retained across major splice isoforms and mediate key protein–protein interactions with collagen substrates. Rabbit polyclonal antibodies covering these regions detect AEBP1 in fibroblast and stromal cell lysates by Western blot and localise the protein to perinuclear and extracellular compartments in immunofluorescence and immunohistochemistry workflows.

Gene & Protein Reference

Gene Symbol	AEBP1
HGNC	HGNC:296
NCBI Gene ID (Human)	165
NCBI Gene ID (Mouse)	11498
Ensembl	ENSG00000106636
OMIM	602981
UniProt (Human)	Q8IUX7
UniProt (Mouse)	Q9WU45
Protein Family	M14 metallocarboxypeptidase family (carboxypeptidase-like); extracellular matrix organiser
Predicted MW	~130 kDa (1,158 aa; signal peptide cleaved in secreted form)
Observed MW	~150–160 kDa (apparent MW by SDS-PAGE, consistent with glycosylation)
Chromosome	7p13
Paralogue	AEBP2 (adipocyte enhancer-binding protein 2)
Key Substrates	Fibrillar collagens (collagen I, collagen III); PTEN promoter (transcriptional repression target in nuclear isoform)
Activated by	TGF-β1 (transcriptional upregulation in fibroblasts/myofibroblasts)

Inhibited by

No canonical proteinase inhibitor identified; loss-of-function caused by AEBP1 null variants (mcEDS-AEBP1)

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.