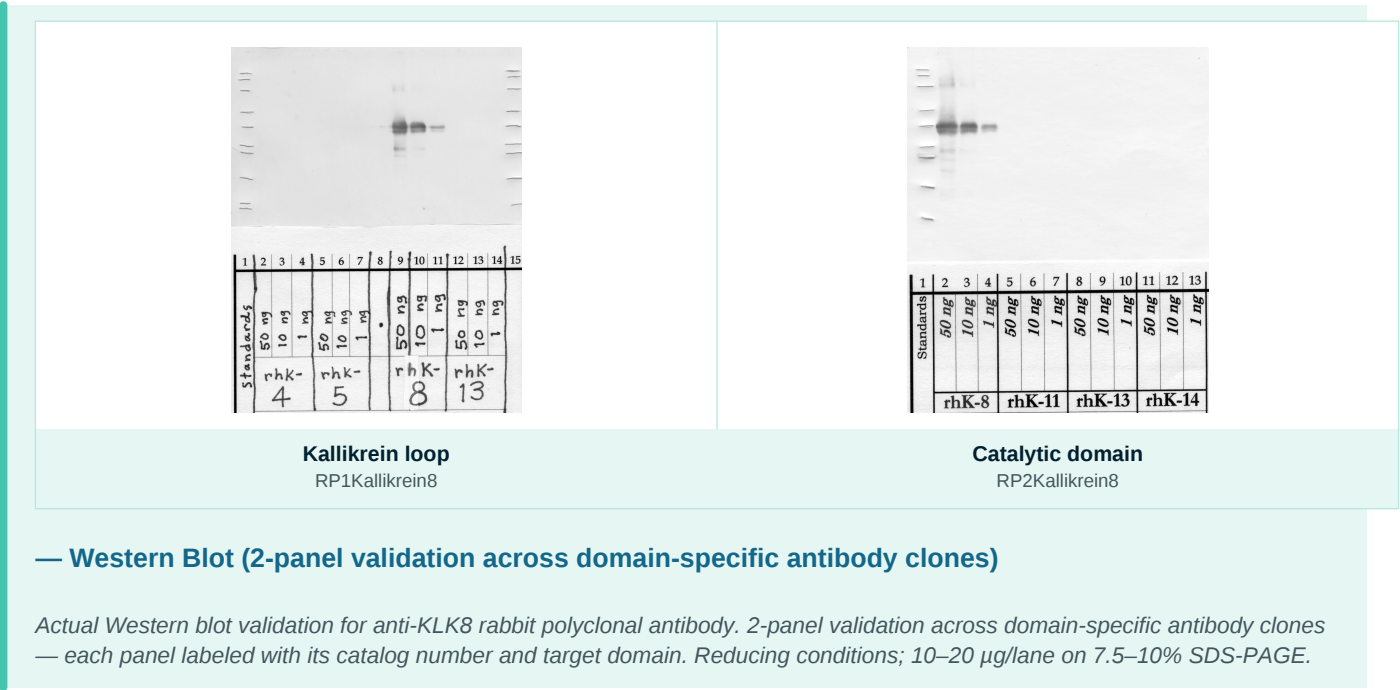


Anti-KLK8 Rabbit Polyclonal Antibody

Kallikrein-8 hK8, EC 3.4.21.118, Neuropsin, NP, Ovasin, Serine protease 19, Serine protease TADG-14, Tumor-associated differentially expressed gene 14 protein,

Gene: KLK8 **UniProt:** O60259 **Host:** Rabbit **Clonality:** Polyclonal (pAb)

Product Image



Key Product Facts

Supplier	Triple Point Biologics, Inc. (Sudbury, Ontario, Canada)
Product Name	Anti-KLK8 Rabbit Polyclonal Antibody
Gene Symbol	KLK8
Alternative Names	Kallikrein-8 hK8, EC 3.4.21.118, Neuropsin, NP, Ovasin, Serine protease 19, Serine protease TADG-14, Tumor-associated differentially expressed gene 14 protein,
UniProt ID	O60259
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, 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-kallikrein-8-rabbit-polyclonal-antibody

Available Domain-Specific Variants

Triple Point Biologics produces antibodies to defined structural domains of KLK8. 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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Kallikrein loop	~68–90 Region within the kallikrein loop of mature human KLK8 — a surface-exposed insertion between the B and C beta-strands of the chymotrypsin-fold catalytic domain that is characteristic of the tissue kallikrein subfamily and is the primary determinant of substrate selectivity among KLK family members	RP1Kallikrein8	In catalog
Catalytic domain	33–260 Region spanning the core serine protease catalytic domain of mature human KLK8, encompassing the His-Asp-Ser catalytic triad residues and the surrounding chymotrypsin-like beta-barrel fold; this domain constitutes the majority of the mature secreted protein and is conserved across the tissue kallikrein family	RP2Kallikrein8	In catalog
—	33–260 Region encompassing the full-length mature human KLK8 protein, including the signal peptide region, propeptide, kallikrein loop, and catalytic domain, providing broad antigenic coverage across the complete primary sequence of the secreted serine protease	RP-Kallikrein8	In catalog

Applications & Recommended Dilutions

App.	Species	Dilution Range	Notes
WB	Validated-Human Potential-Mouse, Rat, Pan, 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

Kallikrein-8 (KLK8) is a secreted, trypsin-like serine protease belonging to the 15-member tissue kallikrein (KLK) family encoded in a contiguous gene cluster on chromosome 19q13.4. Originally cloned as a tumor-associated differentially expressed gene (TADG-14) and independently identified as neuropsin in the mouse hippocampus, KLK8 is distinguished by a canonical catalytic triad (His-Asp-Ser) and a surface-exposed kallikrein loop that governs substrate selectivity. Mature KLK8 is a ~27 kDa single-chain glycoprotein produced by signal peptide cleavage and propeptide removal, yielding a secreted active form with preferential cleavage after Arg and Lys residues.

Expression & Localisation

KLK8 transcripts and protein are most abundant in the brain, with particularly high expression in hippocampal pyramidal neurons and granule cells of the dentate gyrus. Significant expression is also detected in skin keratinocytes, ovarian tissue, and the uterus — the basis for its designation 'ovasin.' In the epidermis, KLK8 is confined to the upper granular and cornified layers. At the subcellular level, KLK8 localises to secretory vesicles and the extracellular space at synaptic contacts, consistent with its role as an activity-regulated extracellular protease.

Activation Mechanism

KLK8 is synthesised as a pre-pro-enzyme. Following signal peptide cleavage in the endoplasmic reticulum, the propeptide is removed extracellularly to yield the catalytically competent form. Activation is facilitated by other KLK family members and by plasmin in a protease-cascade manner, a paradigm well-established across the kallikrein family. Neural depolarisation and elevated extracellular potassium concentrations trigger rapid secretion of KLK8 from neurons, indicating that its extracellular activity is coupled to neuronal excitability rather than constitutive secretion.

Key Substrates & Molecular Functions

KLK8 exhibits broad substrate specificity in vitro and in vivo. Established substrates include fibronectin, collagen type IV, fibrinogen, casein, kininogen, and the neural cell adhesion molecule L1CAM. Cleavage of L1CAM is particularly relevant in the hippocampus, where shedding of the L1CAM ectodomain modulates synaptic remodelling and long-term potentiation at Schaffer-collateral synapses. KLK8 also promotes neurite outgrowth and axon fasciculation in cultured neurons, effects consistent with its capacity to remodel pericellular extracellular matrix and modify adhesion molecule signalling.

Inhibitor Profile

As a serine protease, KLK8 is inhibited by broad-spectrum serine protease inhibitors including PMSF and aprotinin. Among endogenous regulators, members of the Kazal-type serine protease inhibitor family (LEKTI/SPINK5 and related inhibitors) and alpha-2-macroglobulin have been reported to modulate kallikrein activity in skin. KLK8 is also subject to regulation by the serpin protease inhibitor family, including members expressed in brain tissue, though the precise physiological serpin partner for KLK8 in the CNS remains an area of active investigation.

Disease Relevance

KLK8 has been implicated in several pathological contexts. In the CNS, aberrant KLK8 activity is associated with impaired synaptic plasticity and has been linked to models of Alzheimer's disease and schizophrenia, where hippocampal KLK8 levels are altered. In skin, dysregulated KLK8 contributes to inflammatory dermatoses characterised by defective desquamation. Elevated KLK8 expression has been documented in ovarian, breast, and cervical carcinomas, where it is considered a potential biomarker of disease progression. Following spinal cord injury, KLK8 upregulation may contribute to secondary tissue damage through extracellular matrix degradation.

Gene & Protein Reference

Gene Symbol	KLK8
HGNC	6368
NCBI Gene ID (Human)	11202
NCBI Gene ID (Mouse)	23955
Ensembl	ENSG00000129116
OMIM	605644
UniProt (Human)	O60259
UniProt (Mouse)	O08773
Protein Family	Tissue kallikrein (KLK) serine protease family; S1 peptidase clan
Predicted MW	~28.8 kDa (pro-form); ~27 kDa (mature)
Observed MW	~27–35 kDa (variable due to glycosylation)
Chromosome	19q13.41
Paralogue	KLK1, KLK5, KLK6, KLK14 (tissue kallikrein cluster, 19q13.4)
Key Substrates	L1CAM, fibronectin, collagen type IV, fibrinogen, casein, kininogen
Activated by	Proteolytic removal of N-terminal propeptide; cascade activation by KLK family members and plasmin; triggered by neuronal depolarisation
Inhibited by	LEKTI (SPINK5), alpha-2-macroglobulin, aprotinin, PMSF; serpins expressed in brain and skin

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.