

Anti-SERPINA6 Rabbit Polyclonal Antibody

Corticosteroid-binding globulin CBG, Serpin A6, Transcortin,

Gene: SERPINA6 **UniProt:** P08185 **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-SERPINA6 Rabbit Polyclonal Antibody
Gene Symbol	SERPINA6
Alternative Names	Corticosteroid-binding globulin CBG, Serpin A6, Transcortin,
UniProt ID	P08185
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
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-serpin-a6-rabbit-polyclonal-antibody

Available Domain-Specific Variants

Triple Point Biologics produces antibodies to defined structural domains of SERPINA6. 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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Amino end mature Serpin-A6	23–73 Region spanning the amino-terminal segment of the mature secreted CBG protein, encompassing the N-terminal alpha-helix A (hA) and the early strand regions that form the base of the serpin scaffold, prior to the central beta-sheet core	RP1SerpinA6	In catalog
Helix 4 to Helix 5	~160–230 Region encompassing the fourth and fifth alpha-helices (hD–hE) of the CBG serpin fold, situated on the exposed surface of the molecule between the A-sheet and the reactive centre loop-proximal portion of the structure, a segment implicated in the conformational dynamics associated with steroid binding	RP2SerpinA6	In catalog
Helix 7 to Helix 8	~270–340 Region spanning the seventh and eighth alpha-helices (hG–hH) of the serpin scaffold, located on the upper domain of CBG proximal to the reactive centre loop and the elastase-sensitive cleavage site, a structurally dynamic region that undergoes conformational rearrangement upon RCL cleavage	RP3SerpinA6	In catalog
—	23–405 Broad multi-domain epitope region spanning major structural elements of the CBG protein, including portions of the central beta-sheet core (A- and B-sheets), flanking alpha-helices, and connecting loops; suitable for detection of both native and partially denatured forms of the protein	RP-SerpinA6	In catalog

Applications & Recommended Dilutions

App.	Species	Dilution Range	Notes
WB	Validated- Human Potenti al-Mouse, Rat, Pan, Monkey	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

Protein Family and General Biology

SERPINA6 encodes corticosteroid-binding globulin (CBG), also known as transcortin, a secreted glycoprotein belonging to the serine protease inhibitor (serpin) superfamily. Unlike the majority of serpins, CBG functions primarily as a high-affinity steroid hormone carrier rather than a protease inhibitor. It adopts the canonical serpin fold comprising three beta-sheets, nine alpha-helices, and a reactive centre loop (RCL), yet the RCL does not function as a classical protease bait region under normal physiological conditions. CBG is conserved across virtually all vertebrate species, underscoring its fundamental role in glucocorticoid homeostasis.

Expression and Secretion

CBG is synthesised predominantly by hepatocytes and secreted into the bloodstream, where it circulates at concentrations of approximately 30–50 mg/L in healthy adults. Hepatic expression is regulated by oestrogens, explaining the well-documented rise in CBG levels during pregnancy and with oral contraceptive use. Lower-level expression has been reported in the kidney, testis, placenta, and certain immune cells. The mature protein of 405 amino acids is N-glycosylated at multiple sites; glycosylation contributes to its plasma half-life and influences cortisol-binding affinity.

Steroid-Binding Function and Hormone Transport

Under basal physiological conditions, CBG binds approximately 80–90% of circulating cortisol with high affinity ($K_d \sim 30$ nM at 37 °C), leaving only the free fraction available for glucocorticoid receptor engagement and biological activity. CBG also binds progesterone, corticosterone, and certain synthetic glucocorticoids with varying affinities. The steroid ligand is accommodated within a hydrophobic binding pocket formed by the serpin scaffold; ligand binding is temperature-sensitive, with affinity decreasing markedly at febrile temperatures, a property that may facilitate hormone delivery to inflamed, hyperthermic tissues.

Proteolytic Activation and Local Cortisol Release

A defining feature of CBG biology is its susceptibility to cleavage by neutrophil elastase (NE) within the reactive centre loop, between Thr345 and Leu346 (mature protein numbering). Elastase cleavage induces a large conformational change that dramatically reduces cortisol-binding affinity, releasing free cortisol at sites of acute inflammation where activated neutrophils degranulate. This mechanism provides a targeted, proteolysis-driven mechanism for local glucocorticoid delivery independent of circulating free cortisol levels, positioning CBG as a functional rheostat at sites of tissue injury or infection.

Disease Relevance and Clinical Associations

Inherited mutations in SERPINA6 cause familial CBG deficiency, characterised by low plasma CBG, reduced total cortisol, fatigue, and hypotension — a syndrome that can mimic adrenal insufficiency. Elevated CBG is associated with oestrogen excess states and certain chronic inflammatory conditions. Because standard cortisol immunoassays measure total (bound plus free) cortisol, CBG abnormalities can confound clinical interpretation of the hypothalamic–pituitary–adrenal axis. CBG has also been implicated in metabolic syndrome, sepsis, and preterm labour, where altered CBG concentrations affect local and systemic glucocorticoid availability.

Research Applications

CBG is studied in endocrinology, reproductive biology, immunology, and critical care research. Investigators use CBG antibodies to assess hepatic expression by Western blot in liver biopsy material, to localise the protein in placental and adrenal tissue sections, and to quantify secreted CBG in conditioned media by immunofluorescence-based assays. Reliable detection of distinct CBG structural regions — including the amino terminus, the helical hairpin regions, and multi-domain epitopes — is important for distinguishing full-length from elastase-cleaved forms of the protein in experimental systems.

Gene & Protein Reference

Gene Symbol	SERPINA6
HGNC	HGNC:8949
NCBI Gene ID (Human)	866
NCBI Gene ID (Mouse)	12405
Ensembl	ENSG00000170099
OMIM	122500
UniProt (Human)	P08185
UniProt (Mouse)	Q9WU49
Protein Family	Serpin superfamily, clade A (SERPINA)
Predicted MW	44.7 kDa (unglycosylated); ~52–58 kDa glycosylated
Observed MW	~55–60 kDa by SDS-PAGE (glycosylated form)
Chromosome	14q32.13
Paralogue	SERPINA1 (alpha-1-antitrypsin), SERPINA3 (alpha-1-antichymotrypsin)
Key Substrates	Not applicable as a canonical protease inhibitor; CBG is a steroid-binding carrier. Cortisol and progesterone are primary ligands, not substrates.
Activated by	Neutrophil elastase cleavage of the reactive centre loop reduces cortisol-binding affinity, functionally 'activating' local cortisol release at inflammatory sites
Inhibited by	No classical protease-inhibitory target; steroid-binding affinity is modulated by temperature (reduced at febrile temperatures) and by RCL cleavage

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.