

# Cleaved-Cathepsin G (I21) Polyclonal Antibody

Catalog # AP63119

## Product Information

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Application	WB
Primary Accession	<a href="#">P08311</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	28837

## Additional Information

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Gene ID	1511
Other Names	CTSG; Cathepsin G; CG
Dilution	WB~~Western Blot: 1/500 - 1/2000. ELISA: 1/20000. Not yet tested in other applications.
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20°C

## Protein Information

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Name	CTSG
Function	Serine protease with trypsin- and chymotrypsin-like specificity (PubMed: <a href="#">29652924</a> , PubMed: <a href="#">8194606</a> ). Also displays antibacterial activity against Gram-negative and Gram-positive bacteria independent of its protease activity (PubMed: <a href="#">2116408</a> , PubMed: <a href="#">2117044</a> ). Prefers Phe and Tyr residues in the P1 position of substrates but also cleaves efficiently after Trp and Leu (PubMed: <a href="#">29652924</a> ). Shows a preference for negatively charged amino acids in the P2' position and for aliphatic amino acids both upstream and downstream of the cleavage site (PubMed: <a href="#">29652924</a> ). Required for recruitment and activation of platelets which is mediated by the F2RL3/PAR4 platelet receptor (PubMed: <a href="#">10702240</a> , PubMed: <a href="#">3390156</a> ). Binds reversibly to and stimulates B cells and CD4(+) and CD8(+) T cells (PubMed: <a href="#">7842483</a> , PubMed: <a href="#">9000539</a> ). Also binds reversibly to natural killer (NK) cells and enhances NK cell cytotoxicity through its protease activity (PubMed: <a href="#">9000539</a> , PubMed: <a href="#">9536127</a> ). Cleaves complement C3 (PubMed: <a href="#">1861080</a> ). Cleaves vimentin (By similarity). Cleaves thrombin receptor F2R/PAR1 and acts as either an agonist or an inhibitor, depending on the F2R cleavage site (PubMed: <a href="#">10702240</a> , PubMed: <a href="#">7744748</a> ). Cleavage of F2R at '41-Arg- -Ser-42' results in receptor activation while cleavage at '55-Phe- -Trp- 56' results in

inhibition of receptor activation (PubMed:[7744748](#)). Cleaves the synovial mucin-type protein PRG4/lubricin (PubMed:[32144329](#)). Cleaves and activates IL36G which promotes expression of chemokines CXCL1 and CXCL8 in keratinocytes (PubMed:[30804664](#)). Cleaves IL33 into mature forms which have greater activity than the unprocessed form (PubMed:[22307629](#)). Cleaves coagulation factor F8 to produce a partially activated form (PubMed:[18217133](#)). Also cleaves and activates coagulation factor F10 (PubMed:[8920993](#)). Cleaves leukocyte cell surface protein SPN/CD43 to release its extracellular domain and trigger its intramembrane proteolysis by gamma-secretase, releasing the CD43 cytoplasmic tail chain (CD43-ct) which translocates to the nucleus (PubMed:[18586676](#)). Cleaves CCL5/RANTES to produce RANTES(4-68) lacking the N-terminal three amino acids which exhibits reduced chemotactic and antiviral activities (PubMed:[16963625](#)). During apoptosis, cleaves SMARCA2/BRM to produce a 160 kDa cleavage product which localizes to the cytosol (PubMed:[11259672](#)). Cleaves myelin basic protein MBP in B cell lysosomes at '224-Phe-|-Lys-225' and '248-Phe-|-Ser-249', degrading the major immunogenic MBP epitope and preventing the activation of MBP-specific autoreactive T cells (PubMed:[15100291](#)). Cleaves annexin ANXA1 and antimicrobial peptide CAMP to produce peptides which act on neutrophil N-formyl peptide receptors to enhance the release of CXCL2 (PubMed:[22879591](#)). Acts as a ligand for the N-formyl peptide receptor FPR1, enhancing phagocyte chemotaxis (PubMed:[15210802](#)). Has antibacterial activity against the Gram-negative bacteria *N.gonorrhoeae* and *P.aeruginosa* (PubMed:[1937776](#), PubMed:[2116408](#)). Likely to act against *N.gonorrhoeae* by interacting with *N.gonorrhoeae* penA/PBP2 (PubMed:[2126324](#)). Exhibits potent antimicrobial activity against the Gram-positive bacterium *L.monocytogenes* (PubMed:[2117044](#)). Has antibacterial activity against the Gram-positive bacterium *S.aureus* and degrades *S.aureus* biofilms, allowing polymorphonuclear leukocytes to penetrate the biofilm and phagocytose bacteria (PubMed:[2117044](#), PubMed:[32995850](#)). Has antibacterial activity against *M.tuberculosis* (PubMed:[15385470](#)). Mediates CASP4 activation induced by the Td92 surface protein of the periodontal pathogen *T.denticola*, causing production and secretion of IL1A and leading to pyroptosis of gingival fibroblasts (PubMed:[29077095](#)). Induces platelet aggregation which is strongly potentiated in the presence of ELANE (PubMed:[25211214](#), PubMed:[9111081](#)).

#### Cellular Location

Cell membrane; Peripheral membrane protein. Cytoplasmic granule. Secreted. Cytoplasm, cytosol. Lysosome. Nucleus. Note=Secreted by activated neutrophils (PubMed:[3390156](#)). Detected in synovial fluid (PubMed:[32144329](#)). Localizes to lysosomes in B cells where it is not endogenously synthesized but is internalized from the cell membrane (PubMed:[15100291](#)). Localizes to the nucleus during apoptosis (PubMed:[11259672](#)).

#### Tissue Location

Expressed in neutrophils (at protein level) (PubMed:[3799965](#)). Expressed in B cells (PubMed:[15100291](#))

## Background

Serine protease with trypsin- and chymotrypsin-like specificity. Cleaves complement C3. Has antibacterial activity against the Gram-negative bacterium *P.aeruginosa*, antibacterial activity is inhibited by LPS from *P.aeruginosa*, Z-Gly-Leu-Phe- CH<sub>2</sub>Cl and phenylmethylsulfonyl fluoride.

## Images

Western Blot analysis of various cells using  
Cleaved-Cathepsin G (I21) Polyclonal Antibody



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