

CTSG Antibody (Center) Blocking peptide
Synthetic peptide
Catalog # BP5663c**Specification**

CTSG Antibody (Center) Blocking peptide - Product Information

Primary Accession [P08311](#)
Other Accession [NP_001902](#)

CTSG Antibody (Center) Blocking peptide - Additional Information

Gene ID 1511

Other Names
Cathepsin G, CG, CTSG

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

CTSG Antibody (Center) Blocking peptide - Protein Information

Name CTSG

Function

Serine protease with trypsin- and chymotrypsin-like specificity (PubMed:8194606, PubMed:29652924). Also displays antibacterial activity against Gram-negative and Gram-positive bacteria independent of its protease activity (PubMed:2116408, PubMed:2117044). Prefers Phe and Tyr residues in the P1 position of substrates but also cleaves efficiently after Trp and Leu (PubMed:29652924). 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:29652924). Required for recruitment and activation of platelets which is mediated by the F2RL3/PAR4 platelet receptor (PubMed:3390156, PubMed:10702240). Binds reversibly to and stimulates B cells and CD4(+) and CD8(+) T cells (PubMed:7842483, PubMed:9000539). Also binds reversibly to natural killer (NK) cells and enhances NK cell cytotoxicity through its protease activity (PubMed:9000539, PubMed:9536127). Cleaves complement C3 (PubMed:1861080). 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:10702240, PubMed:7744748). 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 releases 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:2116408, PubMed:1937776). 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).

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)

CTSG Antibody (Center) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

CTSG Antibody (Center) Blocking peptide - Images**CTSG Antibody (Center) Blocking peptide - Background**

CTSG, a member of the peptidase S1 protein family, is found in azurophilic granules of neutrophilic polymorphonuclear leukocytes. The encoded protease has a specificity similar to that of chymotrypsin C, and may participate in the killing and digestion of engulfed pathogens, and in connective tissue remodeling at sites of inflammation. Transcript variants utilizing alternative polyadenylation signals exist for this gene.

CTSG Antibody (Center) Blocking peptide - References

Burster, T., et al. Mol. Immunol. 47(4):658-665(2010) Standish, A.J., et al. J. Immunol. 183(4):2602-2609(2009) Yoshida, T., et al. Int. J. Mol. Med. 24(2):233-246(2009) Ribatti, D., et al. Cancer Lett. 279(2):209-212(2009)