

# PRODUCT INFORMATION



## CCL5/RANTES (human, recombinant)

Item No. 32858

### Overview and Properties

**Synonyms:** C-C Motif Chemokine Ligand 5,  
Regulated Upon Activation, Normally T Expressed and Secreted,  
SIS- $\delta$ , T Cell-specific Protein P288, T Cell-specific Protein RANTES, TCP288

**Source:** Recombinant human CCL5 expressed in *E. coli*

**Amino Acids:** 24-91

**Uniprot No.:** P13501

**Molecular Weight:** 8 kDa

**Storage:** -80°C (as supplied)

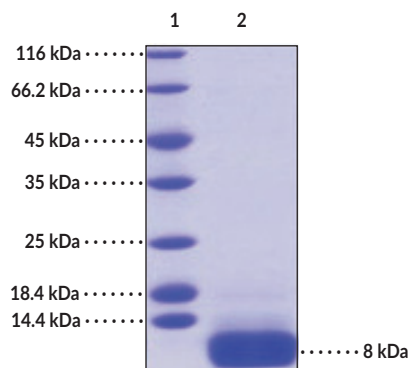
**Stability:**  $\geq 1$  year

**Purity:**  $\geq 95\%$  estimated by SDS-PAGE

**Supplied in:** Lyophilized from sterile PBS, pH 7.4

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Image



Lane 1: MW Markers  
Lane 2: CCL5/RANTES

SDS-PAGE Analysis of CCL5/RANTES. This protein has a calculated molecular weight of 8 kDa.

WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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Chemokine (C-C motif) ligand 5 (CCL5), also known as RANTES, is a pro-inflammatory chemokine and member of the CC subfamily of chemokines.<sup>1</sup> It is composed of an unstructured N-terminal region, a flexible loop, a  $3_{10}$ -helix, three strands of an antiparallel  $\beta$ -sheet, and a single C-terminal  $\alpha$  helix.<sup>2</sup> It is expressed in T cells, platelets, macrophages, tubular epithelial cells, synovial fibroblasts, and endothelial cells, as well as some tumor cells.<sup>1</sup> It functions as a monomer or various oligomers and interacts with the G protein-coupled receptors (GPCRs) chemokine (C-C motif) receptor 1 (CCR1), CCR3, CCR4, CCR5, and GPR75 to activate cell signaling in an oligomerization state-dependent manner. It also interacts with the non-signaling receptors ACKR1, ACKR2, and CCRL2. CCL5 functions as a chemoattractant of immune cells that predominantly express CCR5, such as activated T cells and monocytes, as well as those expressing CCR1 and CCR3, including macrophages and eosinophils, respectively.<sup>3</sup> Production of CCL5 is induced in response to viral infections, including HIV, rhinoviruses, respiratory syncytial virus (RSV), coronaviruses, and influenza.<sup>4</sup> CCL5 expression positively correlates with disease progression in patients with breast cancer.<sup>1</sup> Cayman's CCL5/RANTES (human, recombinant) protein consists of 69 amino acids and has a calculated molecular weight of 8 kDa.

## References

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1. Velasco-Velázquez, M., Xolalpa, W., and Pestell, R.G. The potential to target CCL5/CCR5 in breast cancer. *Expert Opin. Ther. Targets* **18(11)**, 1265-1275 (2014).
2. Abayev, M., Rodrigues, J.P.G.L.M., Srivastava, G., et al. The solution structure of monomeric CCL5 in complex with a doubly sulfated N-terminal segment of CCR5. *FEBS J.* **285(11)**, 1988-2003 (2018).
3. Katsounas, A., Schlaak, J.F., and Lempicki, R.A. CCL5: A double-edged sword in host defense against the hepatitis C virus. *Int. Rev. Immunol.* **30(5-6)**, 366-378 (2011).
4. Marques, R.E., Guabiraba, R., Russo, R.C., et al. Targeting CCL5 in inflammation. *Expert Opin. Ther. Targets* **17(12)**, 1439-1460 (2013).

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