

## RANTES/CCL5 Protein, Mouse (HEK293, Fc)

Cat. No.:	HY-P78249
Synonyms:	MuRantes; SIS-delta; Scya5; Ccl5; D17S136E; eoCP; RANTES; SCYA5; SISd; TCP228; CCL5
Species:	Mouse
Source:	HEK293
Accession:	P30882 (S24-S91)
Gene ID:	20304
Molecular Weight:	40-45 kDa

### PROPERTIES

AA Sequence	S P Y G S D T T P C    C F A Y L S L A L P    R A H V K E Y F Y T    S S K C S N L A V V F V T R R N R Q V C    A N P E K K W V Q E    Y I N Y L E M S
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.22 $\mu$ m filtered solution of PBS, pH 7.4. Normally 8% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/ $\mu$ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/mL in ddH <sub>2</sub> O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

Background	<p>CCL5, also known as RANTES (Regulation of Activation, Expression and Secretion by Normal T Cells), belongs to the CC subfamily of chemokines. The CCL5 gene is located in the q11.2-q12 region of human chromosome 17 and encodes CCL5 a protein with a molecular weight of 8 kDa. CCL5 can be expressed by T cells, monocytes, NK cells, epithelial cells, fibroblasts, and CCL5 can bind to receptors CCR1, CCR3, CCR4 and CCR5, with the highest affinity for CCR5<sup>[1]</sup>. CCL5 binding to CCR5 leads to phosphorylation of phosphatidylinositol 3-kinase (PI3K), and the phosphorylated PI3K further acidifies protein kinase B on serine 473, and the Akt/PKB complex phosphorylates and inactivates the serine/threonine protein kinase GSK-3. In parallel, CCL5 binding to CCR5 induces Bcl2 protein expression, which promotes cell apoptosis. CCL5 can also act as a potential agonist for the G protein-coupled receptor GPR75, which, together with GPR75, may play a role in neuronal survival by activating downstream signaling pathways involving PI3, Akt, and MAP kinases, and in insulin secretion by pancreatic islet cells by activating GPR75<sup>[2]</sup>. In addition to acting as a chemotactic agent, CCL5 is also a major HIV</p>
------------	--

---

suppressor produced by CD<sup>8+</sup> T cells. It is involved in inflammation maintenance, transplantation, antiviral immunity, tumor development, and many human diseases and disorders such as viral hepatitis or COVID-19<sup>[3]</sup>.

---

## REFERENCES

---

- [1]. V Appay, et al. RANTES: a versatile and controversial chemokine. Trends Immunol. 2001 Feb;22(2):83-7.
- [2]. Zhen Zeng, et al. CCL5/CCR5 axis in human diseases and related treatments. Genes Dis. 2022 Jan;9(1):12-27.
- [3]. F Cocchi, et al. Identification of RANTES, MIP-1 alpha, and MIP-1 beta as the major HIV-suppressive factors produced by CD8+ T cells. Science. 1995 Dec 15;270(5243):1811-5.
- [4]. Sara González-Rodríguez, et al. Hyperalgesic and hypoalgesic mechanisms evoked by the acute administration of CCL5 in mice. Brain Behav Immun. 2017 May;62:151-161.
- 

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA