

## I-309/CCL1 Protein, Human (HEK293, Fc)

Cat. No.:	HY-P73914
Synonyms:	C-C motif chemokine 1; CCL1; SCYA1; TCA-3
Species:	Human
Source:	HEK293
Accession:	P22362 (K24-K96)
Gene ID:	6346
Molecular Weight:	38-42 kDa

### PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

### DESCRIPTION

Background	<p>CCL1 is a small glycoprotein belonging to the CC chemokine family with a molecular weight of approximately 15-16 kDa, known as small inducible cytokine I-309 in humans and TCA-3 in mice. CCL1 is secreted by activated monocytes, macrophages, T lymphocytes and endothelial cells and is chemotactic for monocytes but not for neutrophils<sup>[1]</sup>. CCL1 can be activated by interaction with the cell surface chemokine receptor CCR8, which induces Ca<sup>2+</sup> influx, stimulates transient increases in cytoplasmic free calcium concentration in monocytes, and inhibits apoptosis in thymocyte lines via the RAS/MAPK pathway. Among others, CCR8 is constitutively expressed in monocytes, macrophages, Th2 and regulatory T lymphocytes and is the sole receptor for the human CCL1 and for the viral chemokine, vCCL1 (viral macrophage inflammatory protein 1). CCR8 has been shown to be associated with phagocytic macrophages and activated microglia in MS lesions and is directly related to demyelinating activity<sup>[2]</sup>. CCL1 is involved in inflammatory processes through leukocyte recruitment and can play a key role in angiogenesis and other viral and neoplastic processes. A number of single nucleotide polymorphisms (SNPs) in the CCL1 gene have been associated with the progression of chronic obstructive pulmonary disease (COPD). In parallel, CCL1 plays a role in various CNS functions and diseases and may be associated with neuroinflammatory disorders<sup>[3]</sup>.</p>
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### REFERENCES

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- [1]. M D Miller, et al. The human cytokine I-309 is a monocyte chemoattractant. Proc Natl Acad Sci U S A. 1992 Apr 1;89(7):2950-4.
- [2]. A Zingoni, et al. The chemokine receptor CCR8 is preferentially expressed in Th2 but not Th1 cells. J Immunol. 1998 Jul 15;161(2):547-51.
- [3]. Gültekin Tamgüney, et al. Autocrine stimulation of rhadinovirus-transformed T cells by the chemokine CCL1/I-309. Oncogene. 2004 Nov 4;23(52):8475-85.
- [4]. Nasreen S Haque, et al. Chemokine receptor-8 (CCR8) mediates human vascular smooth muscle cell chemotaxis and metalloproteinase-2 secretion. Blood. 2004 Feb 15;103(4):1296-304.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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