

I-309/CCL1 Protein, Mouse (HEK293, Fc)

Cat. No.:	HY-P73913
Synonyms:	C-C motif chemokine 1; CCL1; SCYA1; TCA-3
Species:	Mouse
Source:	HEK293
Accession:	P10146 (K24-C92)
Gene ID:	20290
Molecular Weight:	Approximately 44 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ 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>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^[1]. CCL1 can be activated by interaction with the cell surface chemokine receptor CCR8, which induces Ca²⁺ 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^[2]. 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^[3].</p>
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REFERENCES

- [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]. Shan-Shan Liu, et al. The chemokine CCL1 triggers an AMFR-SPRY1 pathway that promotes differentiation of lung fibroblasts into myofibroblasts and drives pulmonary fibrosis. Immunity. 2021 Oct 12;54(10):2433-2435.
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Caution: Product has not been fully validated for medical applications. For research use only.

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