

Recombinant Human CCL22 (MDC) (carrier-free)

Catalog# / Size	584902 / 10 µg 584904 / 25 µg
Regulatory Status	RUO
Other Names	Macrophage derived cytokine (MDC), Small inducible cytokine subfamily A, member 22 (Scya22), stimulated T cell chemotactic protein (STCP-1)
Description	CCL22 was initially cloned from human activated macrophages by random sequencing of cDNA clones. CCL22 was described originally as a constitutively produced, thymus-specific chemokine engaged in the recruitment of T cells. CCL22 and CCL17 bind to CCR4, and both chemokines share similar <i>in vivo</i> expression patterns and are closely linked on human chromosome 16; nevertheless, they are only 37% identical at the amino acid level.

CCL22 has been associated to different diseases such as allergen-induced lung inflammation, atopic dermatitis, and lymphoma. Also, high levels of CCL22 have been detected in the CNS in multiple sclerosis (MS) and experimental autoimmune encephalomyelitis (EAE). In addition, CCR4⁺ T cells have been linked to endotoxic shock, rheumatoid arthritis, T cell lymphoma, and autoimmune diabetes. Recruitment of Tregs to human cancers producing CCL22 suppresses tumor-specific T cell immunity and contributes to tumor growth. In the context of central nervous system, CCR4 is expressed in astrocytes, microglia, and in hippocampal neurons. Most recently, CCR4 and CCL22 have been detected in the anterior hypothalamus/preoptic area, a key region involved in thermogenesis. In this sense, it has been described that CCL22 is a prostaglandin-dependent pyrogen, acting in the anterior hypothalamus to induce hyperthermia via activation of brown adipose tissue.

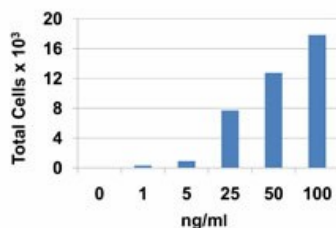
Product Details

Source	Human CCL22, amino acids Gly25-Gln93 (Accession# NM_002990.4) was expressed in <i>E.coli</i> .
Molecular Mass	The 69 amino acid recombinant protein has a predicted molecular mass of approximately 8 kD. The DTT-reduced protein migrates at approximately 10 kD and non-reduced protein migrates at 11 kD by SDS-PAGE. The N-terminal amino acid is Glycine.
Purity	>98%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in 0.1% TFA
Endotoxin Level	Less than 0.01 ng per µg cytokine as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 100 µg/mL.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	Bioactivity was measured by its property to chemoattract BaF3-hCCR4 transfectants in a dose dependent manner.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .

Antigen Details

Structure	Chemokine
Distribution	Macrophages, NK cells, IFN γ stimulated human keratinocytes, thymic epithelial cells and intestinal epithelial cells
Interaction	Dendritic cells, NK cells, Th2 cells, T regs, CLA+ skin-homing memory/effector T cells
Ligand/Receptor	CCR4
Biology Area	Cell Biology, Signal Transduction
Molecular Family	Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none">1. Godiska R, <i>et al.</i> 1997. <i>J. Exp. Med.</i> 185:1595.2. Imai T, <i>et al.</i> 1998. <i>J. Biol. Chem.</i> 273:1774.3. Yamashita U and Kuroda E. 2002. <i>Crit. Rev. Immunol.</i> 22:105.4. Horikawa T, <i>et al.</i> 2002. <i>Int. Immunol.</i> 14:767.5. Mailloux AW and Young MR, <i>et al.</i> 2009. <i>J. Immunol.</i> 182:2753.6. Dogan RN, <i>et al.</i> 2011. <i>J. Leukoc. Biol.</i> 89:93.7. Osborn O, <i>et al.</i> 2011. <i>Cytokine</i> 53:311.
Regulation	CCL22 induces the migration of CCR4 + Th2 cells, Tregs, DC, and NK cells. It is induced by LPS and CD40 antibody in macrophages. It is upregulated by Th2 cytokines (IL-4 and IL-5) and downregulated by Th1 cytokines (IFN γ).
Gene ID	6367

Product Data



Baf3-hCCR4 transfectants attracted by human CCL22.

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