Sterile

#8445

Human C-C Motif Chemokine 3 (hCCL3/MIP-1-α)

☐ SC 10 µg (With Carrier)

☐ SF 10 µg (Carrier Free)

Multi-milligram quantities available

rev. 02/09/17

Cell Signaling TECHNOLOGY®

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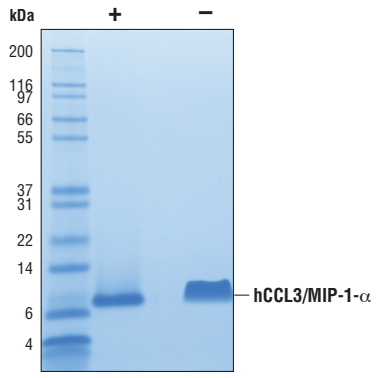
For Research Use Only. Not For Use In Diagnostic Procedures.

Source: Recombinant human CCL3 (hCCL3) Ala27-Ala92 (Accession #NP_002974) was produced in *E. coli* at Cell Signaling Technology.

Molecular Characterization: Recombinant hCCL3 does not have a Met on the amino terminus and has a calculated MW of 7445. DTT-reduced and non-reduced protein migrate as 8 kDa polypeptides. The expected amino-terminal ADTPT of recombinant hCCL3 was verified by amino acid sequencing.

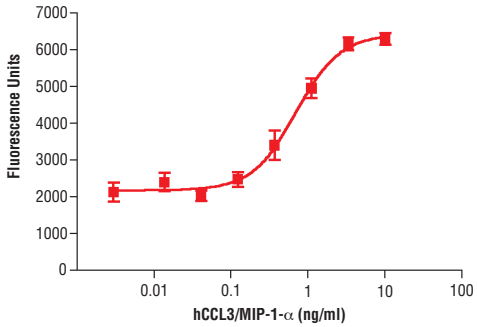
Endotoxin: Less than 0.01 ng endotoxin/1 µg hCCL3.

Purity: >98% as determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hCCL3. All lots are greater than 98% pure.



The purity of recombinant hCCL3 was determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hCCL3 and staining overnight with Coomassie Blue.

Bioactivity: The activity of hCCL3 was determined using a THP-1 cell migration assay. The ED_{50} of each lot is between 0.5-1.2 ng/ml.



◀ *hCCL3-induced migration of THP-1 cells was asssessd. THP-1 cells were incubated in a 96-well transwell plate with increasing concentrations of hCCL3 in the bottom chamber. After 2 hr, the number of THP-1 cells that migrated to the bottom chamber of the transwell was quantified by measuring DNA content using a fluorescent dye.*

Formulation: With carrier: Lyophilized from a 0.22 µm filtered solution of 20 mM citrate, pH 3.0 containing 100 mM NaCl and 20 µg BSA per 1 µg hCCL3.

Carrier free: Lyophilized from a 0.22 µm filtered solution of 20 mM citrate, pH 3.0 containing 100 mM NaCl.

Reconstitution:
With carrier: Add sterile 20 mM citrate, pH 3.0 to a final hCCL3 concentration of greater than 50 µg/ml. Solubilize for 30 minutes at room temperature with occasional gentle vortexing.

Carrier free: Add sterile 20 mM citrate, pH 3.0 or 20 mM citrate, pH 3.0 containing protein to minimize absorption of hCCL3 to surfaces. Solubilize for 30 minutes at room temperature with occasional gentle vortexing. Stock hCCL3 should be greater than 50 µg/ml.

Storage: Stable in lyophilized state at 4°C for 1 year after receipt. Sterile stock solutions reconstituted with carrier protein are stable at 4°C for 2 months and at -20°C for 6 months. Avoid repeated freeze-thaw cycles.

Maintain sterility. Storage at -20°C should be in a manual defrost freezer.

Applications: Optimal concentration for the desired application should be determined by the user.

Background: CCL3, also know as MIP-1-α, or LD78α, is an 8 kDa member of the C-C family of chemokines, which play key roles in immune surveillance, inflammation, and infection (1). CCL3 shares 68% amino acid identity with CCL4 (MIP-1-β) and 94% amino acid identity with LD78β (1). CCL3 is produced by activated monocytes, activated macrophages, NK cells, and T cells among others (1). There are two receptors for CCL3: CCR1 and CCR5 (1). CCL3 inhibits R5 HIV-1 infection by competing with the virus for its co-receptor, CCR5 (1). CCL3 polymorphisms are associated with risk for the development of rheumatoid arthritis and ulcerative colitis (2,3).

Background References:

(1) Menten, P. et al. (2002) *Cytokine Growth Factor Rev* 13, 455-81.

(2) Zhang, R. et al. (2010) *Int J Immunogenet* 37, 273-8.

(3) Li, K. et al. (2009) *Int J Colorectal Dis* 24, 13-7.