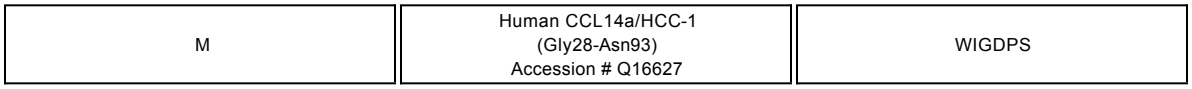
Recombinant Human CCL14a/HCC-1 aa 28-93

Catalog Number: 1578-HC

DESCRIPTION

Source

E. coli-derived human CCL14a/HCC-1 protein



N-terminal Sequence Analysis

Met

Predicted Molecular Mass

7.9 kDa

SPECIFICATIONS

Activity

Measured by its ability to chemoattract BaF3 mouse pro-B cells transfected with human CCR1. The ED_{50} for this effect is 0.15-0.75 ng/mL.

Endotoxin Level

<0.10 EU per 1 µg of the protein by the LAL method.

Purity

>97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation

Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution

Reconstitute at 100 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

Shipping

The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

HCC-1 (Hemofiltrate CC Chemokine-1) was originally isolated from the hemofiltrate of human patients with chronic renal failure (1). It belongs to the CC chemokine superfamily and has been designated CCL14a. HCC-1/CCL14a cDNA encodes a 93 amino acid (aa) residue precursor with a 19 aa signal peptide that is cleaved to form the 74 aa mature secreted proprotein. By alternative splicing, a second longer isoform named HCC-3/CCL14b, which includes sequences from exon 3, also exists (2). HCC-1/CCL14a is expressed constitutively in various normal tissues including spleen, liver, muscle, gut and bone marrow. It circulates at nanomolar concentrations in human plasma. Different post-translationally modified HCC-1/CCL14a, including O-glycosylated and N-terminally truncated variants of HCC-1/CCL14a, have been identified (3, 4). Whereas the 74 aa mature propeptide is a weak CCR1 agonist, the proteolytically processed truncated HCC-1/CCL14a (aa 28 - 93) is a highly potent agonist of CCR1, CCR5 and to a lesser extent, CCR3. HCC-1/CCL14a (aa 28 - 93) promotes chemotaxis of T lymphocytes, monocytes and eosinophils, and inhibits infection of M-tropic human immunodeficiency virus type 1. Activation of the HCC-1/CCL14a propeptide to active peptide is mediated by the urokinase type plasminogen activator or plasmin (5).

References:

1. Schulz-Knappe, P. *et al.* (1996) J. Exp. Med. **183**:295.
2. Forssmanns, U. *et al.* (2001) J. Leukocyte Biology **70**:357.
3. Richter, R. *et al.* (2000) Biochemistry **39**:10799.
4. Munch, J. *et al.* (2002) Antimicrob. Agents Chemother. **46**:982.
5. Vakili, J. *et al.* (2001) J. Immunol. **167**:3406.

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