



GRO-alpha (CXCL1), rat recombinant (rrGRO a)

Catalog No: 97351
Lot No: XXXXX
Source: *E. coli*
Synonyms: Growth-regulated protein alpha, CXCL1, Melanoma growth stimulatory activity, MGSA, Neutrophil-activating protein 3, NAP-3, GRO-alpha(1-73), chemokine (C-X-C motif) ligand 1, GRO1, GROa, SCYB1, MGSA-a, MGSA alpha

Background

Chemokine (C-X-C motif) ligand 1 (CXCL1) is a small cytokine belonging to the CXC chemokine family that was previously called GRO1 oncogene, Neutrophil-activating protein 3 (NAP-3) and melanoma growth stimulating activity, alpha (MSGa-a). It is secreted by human melanoma cells, has mitogenic properties and is implicated in melanoma pathogenesis. CXCL1 is expressed by macrophages, neutrophils and epithelial cells, and has neutrophil chemoattractant activity. CXCL1 plays a role in spinal cord development by inhibiting the migration of oligodendrocyte precursors and is involved in the processes of angiogenesis, inflammation, wound healing, and tumorigenesis. This chemokine elicits its effects by signaling through the chemokine receptor CXCR2. The gene for CXCL1 is located on human chromosome 4 amongst genes for other CXC chemokines.

Description

GRO-alpha rat recombinant produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 73 amino acids and having a molecular mass of 7.8 kDa. Rat CXCL1 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a 0.2 µm filtered concentrated (1 mg/ml) solution in 20 mM PB, pH 7.4, and 150 mM NaCl.

Solubility

It is recommended to reconstitute the lyophilized CXCL1 in sterile 18 MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized CXCL1, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution CXCL1 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 97.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

Amino Acid Sequence

APVANELRCQ CLQTVAGIHF KNIQSLKVMP PGPHTQTEV IATLKNGREA CLDPEAPMVQ KIVQKMLKGV PK

Activity

Determined by its ability to chemoattract rat neutrophils using a concentration range of 10 - 100 ng/ml corresponding to a specific activity of 10,000 - 100,000 IU/mg.

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