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Recombinant Mouse GRO/KC (CXCL1)

Catalog No.: PA1147XC

Quantity: 1 mg

Concentration: 1 mg/ml

Background: KC is a member of the CXC chemokine family with homology to human IL-8, a potent neutrophilic chemotactic cytokine. KC is a fundamental mediator of neutrophil recruitment in acute mast cell-dependent skin inflammation.

Species: Mouse

Source: E. coli, E.coli

Format:
State: Sterile Filtered White lyophilized (freeze-dried) powder.
Purity: ›99% Greater than 95.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Anion-exchange FPLC.
(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained.
Buffer System: The protein was lyophilized with no additives.
Endotoxin Level: Less than 0.1 ng/µg (IEU/µg) of Mouse KC.
Dimers: Less than 1% as determined by silver-stained SDS-PAGE gel analysis.
Reconstitution: It is recommended to reconstitute the lyophilized Recombinant GRO1 in sterile 18MΩ-cm H2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

Description: Recombinant murine KC also nown as N51 and GRO-1 produced in E.Coli is a single,non-glycosylated, polypeptide chain containing 72 amino acids. Recombinant Murine GRO is purified by proprietary chromatographic techniques.
AA Sequence:
`The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Pro-Ile-Ala-Asn.`
Biological Activity: The biological activity was determined by measuring the dose dependent mobilization of intracellular calcium (calcium flux) with human neutrophils. Significant calcium mobilization is observed with â?Ą50ng/mL of recombinant mouse KC. The optimal concentration for each specific application should be determined by an initial dose-response assay.
Molecular weight: 7815 Dalton.
Molecular weight: 8 kDa

Add. Information: Protein quantitation was carried out by two independent methods:
1. UV spectroscopy at 280 nm using the absorbency value of 0.03 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2. Analysis by RP-HPLC, using a standard solution of KC as a Reference Standard.

Storage: Lyophilized Murine N51/KC although stable at room temperature for 3 weeks, should be stored desiccated below -180C. Upon reconstitution GRO1 should be stored at 40C between 2-7 days and for future use below -180C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please avoid freeze-thaw cycles.

General Readings:

1. Nomiyama H, Otsuka-Ono K, Miura R, Osada N, Terao K, Yoshie O, et al. Identification of a novel CXCL1-like chemokine gene in macaques and its inactivation in hominids. J Interferon Cytokine Res. 2007 Jan;27(1):32-7. PubMed PMID: 17266441.
2. Roche JK, Keepers TR, Gross LK, Seaner RM, Obrig TG. CXCL1/KC and CXCL2/MIP-2 are critical effectors and potential targets for therapy of Escherichia coli O157:H7-associated renal inflammation. Am J Pathol. 2007 Feb;170(2):526-37. PubMed PMID: 17255321.
3. Mohsenin A, Burdick MD, Molina JG, Keane MP, Blackburn MR. Enhanced CXCL1 production and angiogenesis in adenosine-mediated lung disease. FASEB J. 2007 Apr;21(4):1026-36. Epub 2007 Jan 16. PubMed PMID: 17227950.
4. Dragulev B, Bao Y, Ramos-Cerrillo B, Vazquez H, Olvera A, Stock R, et al. Upregulation of IL-6, IL-8, CXCL1, and CXCL2 dominates gene expression in human fibroblast cells exposed to Loxosceles reclusa sphingomyelinase D: insights into spider venom dermonecrosis. J Invest Dermatol. 2007 May;127(5):1264-6. Epub 2006 Nov 30. PubMed PMID: 17139265.
5. Rubio N, Sanz-Rodriguez F. Induction of the CXCL1 (KC) chemokine in mouse astrocytes by infection with the murine encephalomyelitis virus of Theiler. Virology. 2007 Feb 5;358(1):98-108. Epub 2006 Sep 22. PubMed PMID: 16996102.
6. Hung CC, Chang CT, Chen KH, Tian YC, Wu MS, Pan MJ, et al. Upregulation of chemokine CXCL1/KC by leptospiral membrane lipoprotein preparation in renal tubule epithelial cells. Kidney Int. 2006 May;69(10):1814-22. PubMed PMID: 16625148.

Pictures: PA1147XCME0607