



Product Information

MIG
Mouse, Recombinant,
Expressed in *E. coli*

Product Number **M 1439**

Product Description

Recombinant Mouse MIG is a protein produced from a DNA sequence encoding mature mouse MIG.¹ The 105 amino acid recombinant protein has a predicted molecular mass of approximately 12 kDa. *E. coli*-expressed MIG represents greater than 80% full length MIG.

MIG, a member of the α (CXC) chemokine family of inflammatory and immunoregulatory cytokines, was initially identified as a lymphokine-activated gene in mouse macrophages. Mouse MIG cDNA encodes a 126 amino acid residue precursor protein with a 21 amino acid residue signal peptide that is cleaved to yield a mature protein (105 amino acid residue). MIG has an extended carboxy-terminus containing greater than 50% basic amino acid residues and is larger than most other chemokines. The carboxy-terminal amino acids are prone to proteolytic cleavage resulting in size heterogeneity of natural and recombinant MIG. MIG with large carboxy-terminal deletions has diminished activity in the calcium flux assay.

The MIG gene is induced in macrophages and primary glial cells of the central nervous system, specifically, in response to IFN- γ .² MIG is also a chemoattractant for activated T lymphocytes and tumor-infiltrating T-lymphocytes (TIL) but not for neutrophils and monocytes. A chemokine receptor (CXCR3) specific for MIG and IP-10 is highly expressed in IL-2-activated T-lymphocytes.³

Reagent

Recombinant Mouse MIG is supplied as approximately 10 μ g of protein lyophilized from a 0.2 μ m filtered solution in 30% acetonitrile and 0.1% trifluoroacetic acid (TFA) containing 0.5 mg of bovine serum albumin.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 10 μ g/ml.

Storage/Stability

Store at -20 °C. Upon reconstitution, store at 2 °C to 8 °C for one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

Product Profile

Recombinant Mouse MIG is measured by its ability to chemoattract human lymphocytes cultured in the presence of IL-2 for 8-10 days and also by its ability to chemoattract BaF/3 hCSCR3 cells.

The ED₅₀ for human lymphocytes cultured in the presence of IL-2 for 8 to 10 days is typically 0.1 to 0.3 μ g/ml. The ED₅₀ for BaF/3 hCSCR3 cells is typically 0.1 to 0.5 μ g/ml.

The ED₅₀ is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Purity: > 97% as determined by SDS-Page, visualized by silver stain.

Endotoxin level is < 0.1 ng/ μ g cytokine as determined by the LAL (Limulus amoebocyte lysate) method.

References

1. Farber, J.M., Biochem. Biophys. Res. Commun., **192**, 223 (1993).
2. Vanguri, P., J. Neuroimmunol., **56**, 35 (1995).
3. Loetscher, M., et al., J. Exp. Med., **184**, 963 (1996).

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