

## Technical Data Sheet

## Recombinant Rat GM-CSF

## Product Information

Material Number:	555111
Size:	5 µg
Concentration:	0.1 mg/ml
Reactivity:	QC Testing: Rat
Storage Buffer:	Frozen aqueous buffered solution containing BSA and glycerol.

## Description

Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF) is a cytokine which is made by activated T cells, macrophages, vascular endothelial cells and fibroblasts. It has potent stimulatory effects on the growth and differentiation of bone marrow progenitor cells that generate granulocytes monocytes/macrophages, and megakaryocytes. In peripheral tissues, GM-CSF can act on mature leukocytes to promote inflammatory responses. Recombinant rat GM-CSF (Cat. No. 555111) is supplied as a frozen liquid comprised of 0.22 µm sterile-filtered aqueous buffered solution, containing bovine serum albumin and glycerol, with no preservatives. Recombinant rat GM-CSF is ≥ 95% pure as determined by SDS-PAGE analysis, and an absorbance assay based on the Beers-Lambert Law. The endotoxin level is ≤ 0.1 ng per µg of GM-CSF, as measured in a chromogenic LAL assay.

## Preparation and Storage

Store product at -80°C prior to use or for long term storage of stock solutions.

Rapidly thaw and quick-spin product prior to use.

Avoid multiple freeze-thaws of product.

This preparation contains no preservatives, thus it should be handled under aseptic conditions.

## Application Notes

## Application

ELISA Standard	Routinely Tested
Bioassay	Tested During Development

## Recommended Assay Procedure:

Upon initial thawing, recombinant rat GM-CSF (Cat. No. 555111) should be aliquoted into polypropylene microtubes and frozen at -80°C for future use. Alternatively, the product can be diluted in sterile neutral buffer containing not less than 0.5 - 10 mg/mL carrier protein, such as human or bovine albumin, aliquoted and stored at -80°C. For *in vitro* biological assay use, carrier-protein concentrations of 0.5 - 1 mg/mL are recommended. For use as an ELISA standard, carrier-protein concentrations of 5 - 10 mg/mL are recommended. Failure to add carrier protein or store at indicated temperatures may result in a loss of activity. Carrier proteins should be pre-screened for possible effects in each investigator's experimental system. Carrier proteins may have an undesired influence on experimental results due to toxicity, high endotoxin levels or possible blocking activity.

**ELISA Standard:** Recombinant rat GM-CSF (Cat. No. 555111) can be useful as a quantitative standard for measuring rat GM-CSF protein levels using sandwich ELISA.

**Bioassay:** Investigators are advised that the Bioassay application is not routinely tested for this material and are highly encouraged to both titrate this material and include appropriate controls in relevant experiments. An activity range of 0.1 - 1.0 x 10<sup>9</sup> units/mg, encompassing an ED50= 10 - 100 pg/mL, has previously been reported using MC/9 as indicator cells in a proliferation assay, with a unit defined as the amount of material needed to stimulate a half-maximal response at cytokine saturation.

## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. Please refer to [www.bdbiosciences.com/pharmingen/protocols](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.

## References

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