

## CERTIFICATE OF ANALYSIS

### Product Information

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Product Name: GM-CSF, Human

Cat. No.: Z02695-10; Z02695-50; Z02695-1

Lot No.: P50041504

Size: 10 µg/vial; 50 µg/vial; 1 mg/vial

Storage Condition: Lyophilized recombinant human Granulocyte Macrophage Colony Stimulating Factor (rhGM-CSF) remains stable up to 12 months at lower than -70°C from date of receipt. Upon reconstitution, rhGM-CSF should be stable up to 4 weeks at 4°C or up to 6 months at -20°C.

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### Quality Control

| Test Items                              | Specifications            | Results   |
|---|---------------------------|-----------|
| Physical Appearance                     | White Freeze-dried Powder | Conformed |
| Purity (SDS-PAGE&HPLC)                  | > 95%                     | Conformed |
| Biological Activity (ED <sub>50</sub> ) | < 0.5 ng/mL               | Conformed |
| Molecular Weight                        | 14 kDa                    | Conformed |
| Bacterial Endotoxin                     | < 1 EU/µg                 | Conformed |

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### Caution:

For laboratory use only. Not for household use. If you have any questions about the Certificate of Analysis, please contact our customer service representative at 1-877-436-7274 (Toll-Free), or 1-732-885-9188.

Certified by: Joe Wang Date: 7/11/2015

Protein Products Department