Human Granulocyte Macrophage Colony Stimulating Factor (hGM-CSF) (#8922) Datasheet Without Images

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### MW (kDa):
14

### UniProt ID:
#P04141

### Entrez-Gene Id:
1437

#### Background
GM-CSF is produced by activated T cells, NK cells and macrophages (1,5). Target cells include granulocyte, monocyte precursors and subsets of differentiated myeloid cells (1,2,3). Many target cells require GM-CSF for survival. GM-CSF induces proliferation, is involved in hematopoietic differentiation of dendritic cells and is a key factor in differentiation pathways leading from stem cells. GM-CSF activates effector functions of myeloid cells, thereby linking adaptive and innate immunity and in turn may boost anti-tumor immunity (4). GM-CSF receptor is composed of GM-CSFRα and the common β chain, βC, which is also utilized by IL-3 and IL-5 (1). Binding of GM-CSF initiates the Jak2, Stat5 and PI3K/Akt pathways (1).

#### Endotoxin
Less than 0.01 ng endotoxin/1μg hGM-CSF.

#### Purity
>98% as determined by SDS-PAGE of 6 μg reduced (+) and non-reduced (-) recombinant hGM-CSF. All lots are greater than 98% pure.

#### Source / Purification
Recombinant human GM-CSF (hGM-CSF) Ala18 - Glu144 (Accession # NM_000758) was produced in *E. coli* at Cell Signaling Technology.

#### Bioactivity
The bioactivity of recombinant hGM-CSF was determined in a TF-1 cell proliferation assay. The ED₅₀ of each lot is between 5-500 pg/ml.

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#### Background References

#### Cross-Reactivity Key

<table>
<thead>
<tr>
<th>Species</th>
<th>Key</th>
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<tbody>
<tr>
<td>H: human</td>
<td>M: mouse</td>
</tr>
<tr>
<td>R: rat</td>
<td>Hm: hamster</td>
</tr>
<tr>
<td>M: monkey</td>
<td>Vir: virus</td>
</tr>
<tr>
<td>Mi: mink</td>
<td>C: chicken</td>
</tr>
<tr>
<td>Dm: D. melanogaster</td>
<td>X: Xenopus</td>
</tr>
<tr>
<td>Z: zebrafish</td>
<td>B: bovine</td>
</tr>
<tr>
<td>Dg: dog</td>
<td>Pg: pig</td>
</tr>
<tr>
<td>Sc: S. cerevisiae</td>
<td>Ce: C. elegans</td>
</tr>
<tr>
<td>Hp: horse</td>
<td>GP: Guinea Pig</td>
</tr>
<tr>
<td>Rab: rabbit</td>
<td>All: all species expected</td>
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</tbody>
</table>

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