

### 32-7033: Recombinant Human GM-CSF/CSF2 (P. pastoris)

**Gene :** CSF2  
**Gene ID :** 1437  
**Uniprot ID :** P04141

#### Description

Source: P.Pichia.  
MW :14.4kD.

Recombinant Human Granulocyte-Macrophage Colony-Stimulating Factor is produced by our Yeast expression system and the target gene encoding Ala18-Glu144 is expressed. GM-CSF was initially characterized as a growth factor that can support the in vitro colony formation of granulocyte macrophage progenitors. It is produced by a number of different cell types (including activated T cells, B cells, macrophages, mast cells, endothelial cells and fibroblasts) in response to cytokine of immune and inflammatory stimuli. Besides granulocyte-macrophage progenitors, GM-CSF is also a growth factor for erythroid, megakaryocyte and eosinophil progenitors. On mature hematopoietic, monocytes/macrophages, and eosinophils, GM-CSF has also been reported to have a functional role on non-hematopoietic cells. It can induce human endothelial cells to migrate and proliferate. Additionally, GM-CSF can also stimulate the proliferation of a number of tumor cell lines, including osteogenic sarcoma, carcinoma and adenocarcinoma cell lines.

#### Product Info

**Amount :** 10 µg / 50 µg  
**Content :** Lyophilized from a 0.2 µm filtered solution of 10mM TrisHCl, 4% Mannitol, 1% Sucrose, pH 8.5.  
**Storage condition :** Lyophilized protein should be stored at -20°C, though stable at room temperature for 3 weeks. Reconstituted protein solution can be stored at 4-7°C for 2-7 days. Aliquots of reconstituted samples are stable at -20°C for 3 months.  
**Amino Acid :** APARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVISEMFDLQEPTCLQTRLELYKQGL  
RGSCLKKGPLTMMASHYKQHCPTPETSCATQITFESFKENLKDFLLVIPFDCWEPVQE

#### Application Note

Always centrifuge tubes before opening. Do not mix by vortex or pipetting. It is not recommended to reconstitute to a concentration less than 100 µg/ml. Dissolve the lyophilized protein in ddH<sub>2</sub>O. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.

**Endotoxin :** Less than 0.1 ng/µg (1 IEU/µg) as determined by LAL test.

**Biological Activity :** ED<sub>50</sub> is less than 0.2 ng/ml. Specific Activity of 5.0 x 10<sup>6</sup> IU/ mg.