



# Certificate of Analysis

## GM-CSF Protein, Human (His)

Cat. No.:	HY-P7016C
Batch No.:	240593
Species:	Human
Source:	<i>E. coli</i>
Tag:	N-6*His
Accession:	P04141 (A18-E144)
Gene ID:	1437
Molecular Weight:	Approximately 16 kDa

### ANALYTICAL DATA

TEST	Specifications	Results
Purity	Greater than 95% as determined by reducing SDS-PAGE.	≥95.0%
Endotoxin Level	<1 EU/μg, determined by LAL method.	PASS
Biological Activity	Measured in a cell proliferation assay using TF-1 <i>human erythroleukemic cells</i> . The $ED_{50}$ for this effect is 26.66-33.71 pg/mL, corresponding to a specific activity is $2.97 \times 10^7$ - $3.75 \times 10^7$ units/mg.	PASS
Appearance	Lyophilized powder.	
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).	
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer. It is recommended to freeze aliquots at -20°C or -80°C for extended storage.	
Shipping	Room temperature in continental US; may vary elsewhere.	

**Caution: Product has not been fully validated for medical applications. For research use only.**

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