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Human Recombinant EPO (CHO-expressed)

Erythropoietin

Catalog #78007.1	10 µg
Catalog #78007	50 µg
Catalog #78007.2	1000 µg

Product Description

Erythropoietin (EPO) is a glycoprotein growth factor that is produced primarily in the kidney in response to hypoxia or anemia. It is the principal physiological regulator of erythropoiesis. EPO promotes erythropoiesis by binding to a homodimeric cell surface receptor that activates JAK2/STAT5, PI3K/AKT, and MAPK pathways, and stimulates the proliferation and differentiation of erythroid progenitor cells (Jelkmann; Kuhrt & Wojchowski).

Product Information

Alternative Names:	Epoetin, Erythropoietin, EP
Accession Number:	P01588
Amino Acid Sequence:	APPRLICDSR VLERYLLEAK EAENITTGCA EHCSLNENIT VPDTKVNFYA WKRMEVGQQA VEVWQGLALL SEAVLRGQAL LVNSSQPWEP LQLHVDKAVS GLRSLTTLLR ALGAQKEAIS PPDAASAAPL RTITADTFRK LFRVYSNFLR GKLKLYTGEA CRTGDR
Predicted Molecular Mass:	18.4 kDa
Species:	Human
Product Formulation:	Lyophilized after dialysis against phosphate-buffered saline (PBS).
Source:	CHO
Purity:	≥ 95%

Specifications

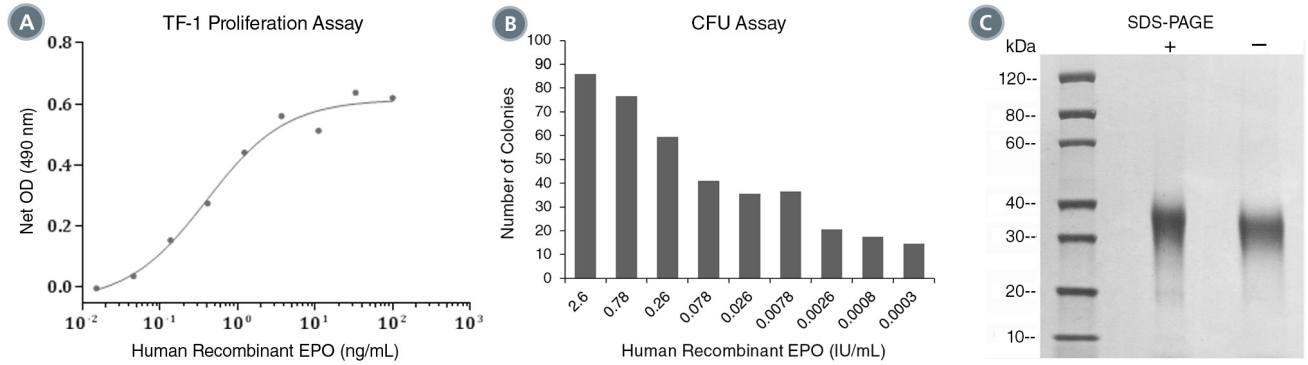
Activity:	The EC50 is ≤ 0.6 ng/mL, as determined by a cell proliferation assay using TF-1 cells. The specific activity is approximately 220 IU/µg, as determined by titration in a CFU assay on human bone marrow MNCs and calibration against the third international reference preparation of EPO (NIBSC code: 11/170). Titration should be performed to determine the optimal concentration for each application.
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Stability and Storage: Store at -80°C. Stable as supplied for 12 months from date of receipt.

Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.
OPTIONAL: After reconstitution, dilute in an appropriate buffer, e.g. D-PBS (Without Ca++ and Mg++) (Catalog #37350) with 0.1% (w/v) bovine serum albumin (BSA), diluted from a 10% stock solution (10% BSA in Iscove's MDM, Catalog #09300) or D-PBS with 2% Fetal Bovine Serum (Catalog #07905). The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 week or at -20°C for more than 2 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant EPO was tested by its ability to promote the proliferation of TF-1 cells. The EC50 is defined as the effective concentration of the growth factor at which the cell proliferation is at 50% of maximum. The EC50 in the above example is less than 0.6 ng/mL. (B) Human Recombinant EPO stimulates the proliferation and differentiation of erythroid progenitor cells, and was validated by titration in a CFU assay on human bone marrow MNCs, using MethoCult™ SF H4236 (Catalog #04236). The total number of colonies at each EPO concentration was enumerated using STEMvision™ (Catalog #22006). (C) 5 µg of Human Recombinant EPO was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant EPO polypeptide has a predicted molecular mass of 18.4 kDa. As a result of glycosylation, the recombinant protein migrates with an apparent molecular mass of 26 - 36 kDa in SDS-PAGE.

Related Products

For a complete list of cytokines or peptide pools, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

Jelkmann W. (2013) Physiology and pharmacology of erythropoietin. Transfus Med Hemother 40(5): 302–9.

Kuhrt D & Wojchowski DM. (2015) Emerging EPO and EPO receptor regulators and signal transducers. Blood 125(23): 3536–41.