Erythropoietin-Alpha Human Recombinant

Introduction

This gene is a member of the EPO/TPO family and encodes a secreted, glycosylated cytokine composed of four alpha helical bundles. The protein is found in the plasma and regulates red cell production by promoting erythroid differentiation and initiating hemoglobin synthesis. This protein also has neuroprotective activity against a variety of potential brain injuries and antiapoptotic functions in several tissue types.

Product Description

Catalogue Number  
BWU790 ; BWU791

Description  
Erythropoietin-alpha Human Recombinant is produced in Chinese hamster ovary (CHO) cells by recombinant DNA technology is a single, polypeptide chain containing 166 amino acids and having a predicted molecular mass of 21,000 Dalton and apparent glycosylated molecular mass of 36-40kDa Dalton. EPO-a is purified by proprietary chromatographic techniques.

Source  
Chinese Hamster Ovary Cells(CHO).

Purity  
Greater than 98.0% as determined by: (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

Physical appearance  
Sterile Filtered White lyophilized (freeze-dried) powder..

Formulation  
Each mg of lyophilized powder contains 0.59 mg sodium citrate, 0.58 mg sodium chloride and 0.006 mg citric acid.

Solubility  
It is recommended to reconstitute the lyophilized Epoetin-a in sterile 18M-cm H$_2$O not less than 100µg/ml, which can then be further diluted to other aqueous solutions

Storage  
Lyophilized Erythropoietin-a although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution EPO-alpha should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

AA sequence  
APPRLICDSR VLERYLLEAK EAENITTGCA EHCSLNENIT VPDTKVNFYA WKRMEVGQQA VEVWQGLALL SEAVLRQGAL LVNSSQPWEPE LQLHVDKAVS GLRSLTTLLR ALGAQKEAIS PFDAAASAAPL RTITADTFRK LFRVYSNFLR GKLKLYTGEA CRTGDR

Biological activity  
The Specific Activity was measured by Normocyth -aemic mice and was found to be 150,000 IU/mg.
Reference

1. **Title**: Zinc Transporters ZnT1 (Slc30a1), Zip8 (Slc39a8), and Zip10 (Slc39a10) in Mouse Red Blood Cells Are Differentially Regulated during Erythroid Development and by Dietary Zinc Deficiency

   **Publication**: Journal of Nutrition, doi:10.3945/jn.108.093575
   Vol. 138, No. 11, 2076-2083, November 2008

2. **Title**: Systemically delivered Erythropoietin transiently enhances adult hippocampal neurogenesis.

   **Publication**: Article first published online: 7 MAY 2007 DOI:10.1111/j.1471-4159.2007.04684.x

3. **Title**: ZINC TRANSPORTER EXPRESSION IN MATURERED BLOOD CELLS AND DIFFERENTIATING ERYTHROID PROGENITOR CELLS.

   **Publication**: UNIVERSITY OF FLORIDA
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4. **Title**: Cell Therapy with Human Renal Cell Cultures Containing Erythropoietin-Positive Cells Improves Chronic Kidney Injury.

   **Publication**: First Published Online May 3, 2012 doi: 10.5966/sctm.2011-0048 Stem Cells Trans Med May 2012 vol. 1 no. 5 373-383

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