

## EPO a Human

**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. EPO-a is purified by proprietary chromatographic techniques.

**Synonyms:** Erythropoietin-Alpha, EPO-a, EPO-alpha, Epoetin, EP, MGC138142.

**Source:** Chinese Hamster Ovary Cells(CHO).

**Physical Appearance:** Sterile Filtered White lyophilized (freeze-dried) powder.

**Amino Acid Sequence:** APPRLICDSR VLERYLLEAK EAENITTGCA EHCSLNENIT  
VPDTKVNIFY WKRMVEVGQA VEVWQGLALL SEAVLRGQAL LVNSSQPWEP LQLHVDKAVS  
GLRSLTTLRL ALGAQKEAIS PPDAASAAPL RTITADTRK LFRVYSNFLR GKLLKLYTGEA  
CRTGDR.

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

**Formulation:**

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

**Stability:**

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.

**Usage:**

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

**Solubility:**

It is recommended to reconstitute the lyophilized Epoetin-a in sterile 18M-cm H<sub>2</sub>O not less than 100

**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.

**Biological Activity:**

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

#### References:

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 © 2008 American Society for Nutrition J. Nutr. 138:2076-2083, November 2008 Link: <http://jn.nutrition.org/content/138/11/2076.full>

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 Journal of Neurochemistry Volume 102, Issue 6, pages 1953-1965, September 2007. Link: <http://onlinelibrary.wiley.com/doi/10.1111/j.1471-4159.2007.04684.x/full>

3. Title: ZINC TRANSPORTER EXPRESSION IN MATURE RED BLOOD CELLS AND DIFFERENTIATING ERYTHROID PROGENITOR CELLS. Publication: UNIVERSITY OF FLORIDA © 2007 Moon-Suhn Ryu Link: [http://ufdcimages.uflib.ufl.edu/UF/E0/02/14/46/00001/ryu\\_m.pdf](http://ufdcimages.uflib.ufl.edu/UF/E0/02/14/46/00001/ryu_m.pdf)

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 Link: <http://stemcellstm.alphamedpress.org/content/1/5/373.full>

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