

EPO/Erythropoietin Protein, Rat, Recombinant (His)

General Information

Synonyms:	erythropoietin
Protein Construction:	A DNA sequence encoding the rat EPO (P29676-1) (Met 1-Arg 192) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Ala 27
Species:	Rat
Expression Host:	Baculovirus Insect Cells
Accession:	P29676-1
Molecular Weight:	20 kDa (predicted); 27 kDa (reducing conditions)

QC Testing

Biological Activity:	<ol style="list-style-type: none">1. Measured by its ability to bind human EPOR-Fc in a functional ELISA.2. Measured by its ability to bind biotinylated human EPOR-His in a functional ELISA.3. Measured by its ability to bind mouse EPOR-Fch in a functional ELISA.4. Measured by its ability to bind human EPOR & CD131-Fc in a functional ELISA.5. Measured by its ability to inhibit Epo-dependent proliferation of TF1 human erythroleukemic cells. The ED50 for this effect is 2-10ng/mL.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Erythropoietin is a member of the EPO / TPO family. It is a secreted, glycosylated cytokine composed of four alpha helical bundles. Erythropoietin can be found in the plasma and regulates red cell production by promoting erythroid differentiation and initiating hemoglobin synthesis. It also has neuroprotective activity against a variety of potential brain injuries and antiapoptotic functions in several tissue types. Erythropoietin is the principal hormone involved in the regulation of erythrocyte differentiation and the maintenance of a physiological level of circulating erythrocyte mass. It is produced by kidney or liver of adult mammals and by liver of fetal or neonatal mammals. Genetic variation in erythropoietin is associated with susceptibility to microvascular complications of diabetes type 2. These are pathological conditions that develop in numerous tissues and organs as a consequence of diabetes mellitus. They include diabetic retinopathy, diabetic nephropathy leading to end-stage renal disease, and diabetic neuropathy. Diabetic retinopathy remains the major cause of new-onset blindness among diabetic adults. It is characterized by vascular permeability and increased tissue ischemia and angiogenesis. It has a longer circulating half-life in vivo. Erythropoietin is being much misused as a performance-enhancing drug in endurance athletes.

Reference

- Jelkmann W, et al. (2007) Erythropoietin after a century of research: younger than ever. *Eur J Haematol.* 78 (3):183-205.
- Miyake T, et al. (1997) Purification of human erythropoietin. *J Biol Chem.* 252(15):5558-64.
- HAroon ZA, et al. (2003) A novel role for erythropoietin during fibrin-induced wound-healing response. *Am J Pathol.* 163(3):993-1000.
- Siren AL, et al. (2001) Erythropoietin prevents neuronal apoptosis after cerebral ischemia and metabolic stress. *Proc Natl Acad Sci.* 98(7):4044-9.

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