Recombinant Human Erythropoietin/EPO Protein

Catalog No.: RP01532

Sequence Information

Species
Human

Gene ID
2056

Swiss Prot
P01588

Tags
C-His

Synonyms
EPO,EP,MVCD2

Product Information

Source
HEK293 cells

Purification
≥ 95 % as determined by SDS-PAGE.

Calculated MW
19.23 kDa

Observed MW
35-45 kDa

Endotoxin
< 0.1 EU/μg of the protein by LAL method.

Formulation
Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution
Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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 susceptbility 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.

Basic Information

Description
Recombinant Human Erythropoietin/EPO Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Ala28-Arg193) of human Erythropoietin/EPO (Accession #NP_000790.2) fused with a 6×His tag at the C-terminus.

Activity
1.Measured by its binding ability in a functional ELISA. Immobilized Human EPO Protein at 5μg/mL (100 μL/well) can bind EPOR with a linear range of 0.12-23.83 ng/mL.
2.Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED_{50} for this effect is 0.03-0.12 ng/mL.

Shipping
Lyophilized proteins are shipped at ambient temperature.
Liquid proteins are shipped at frozen temperature with dry ice.
Upon receipt, store it immediately at the temperature recommended below.

Storage
Store at -20℃

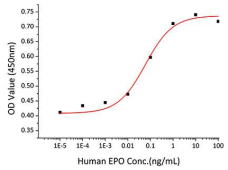
Operational Notes
For your safety and health, please wear a lab coat and disposable gloves for handling.

Contact

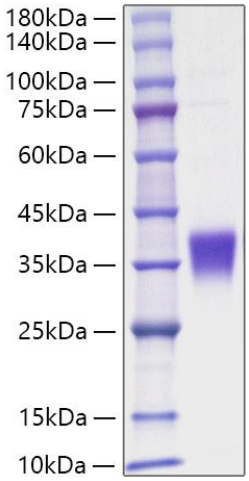
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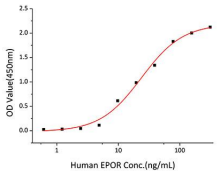
Validation Data



Recombinant Human EPO stimulates cell proliferation of the TF-1 human erythroleukemic cells. The ED_{50} for this effect is 0.03-0.12 ng/mL, corresponding to a specific activity of 8.3×10^6~3.33×10^7 units/mg.



Recombinant Human Erythropoietin/EPO Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



Immobilized Human EPO Protein at 5μg/mL (100 μL/well) can bind EPOR with a linear range of 0.12-23.83 ng/mL.

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