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Recombinant Human Erythropoietin/EPO Protein

Catalog No.: RP01380 Recombinant

Sequence Information

Species	Gene ID	Swiss Prot
Human	2056	P01588

Tags
C-hFc

Synonyms
EPO;EP;MVCD2

Product Information

Source
HEK293 cells

Purification
> 95% by SDS-PAGE.

Endotoxin
<0.1EU/μg

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 votex 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.

Contact

400-999-6126

cn.market@abclonal.com.cn

www.abclonal.com.cn

Background

Human Erythropoietin (EPO) is also known as EP, erythropoetin or erthropoyetin, and is a glycoprotein hormone that controls erythropoiesis, or red blood cell production.It 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.

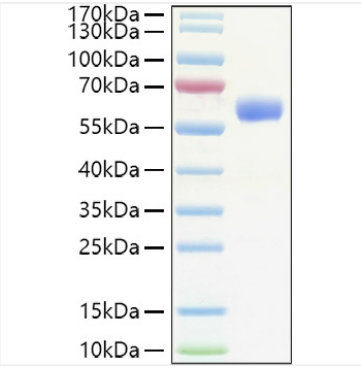
Basic Information

Description
Recombinant Human Erythropoietin/EPO Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Ala28-Arg193) of human EPO/MVCD2 (Accession #NP_000790.2) fused with a hFc tag at the C-terminus.

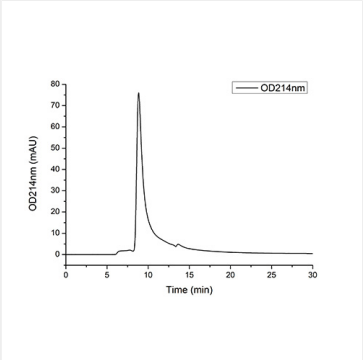
Bio-Activity
1.Measured by its binding ability in a functional ELISA. Immobilized Human EPOR at 1 μg/mL (100 μL/well) can bind Human EPO with a linear range of 0.24-74.89 ng/mL.|2.Measured in a cell proliferation assay using TF1 human erythroleukemic cells. The ED_{50} for this effect is 2.37-9.48 ng/mL.

Storage
Store the lyophilized protein at -20°C to -80°C for long term.
After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.
Avoid repeated freeze/thaw cycles.

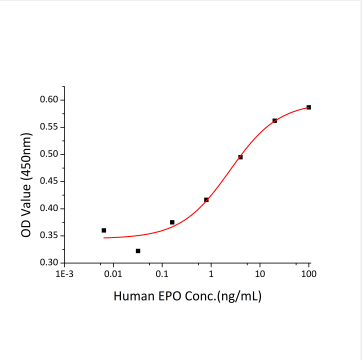
Validation Data



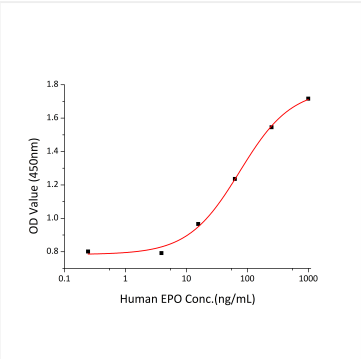
Recombinant Human Erythropoietin/EPO Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 60-65kDa.



The purity of Human EPO/MVCD2 Protein (Cat.RP01380) was greater than 95% as determined by SEC-HPLC.



Recombinant Human EPO promotes the proliferation of TF1 human erythroleukemic cells. The ED_{50} for this effect is 1.25-5ng/mL, corresponding to a specific activity of 2.0 × 10^5~8.0× 10^5 units/mg.



Immobilized Human EPOR at 1 μg/mL (100 μL/well) can bind Human EPO with a linear range of 0.24-74.89 ng/mL.