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# Recombinant Human Erythropoietin/EPO Protein

**Catalog No.: RP01532** Recombinant

## Sequence Information

| Species | Gene ID | Swiss Prot |
|---|---|---|
| Human | 2056 | P01588 |

**Tags**
C-His

**Synonyms**
EPO;EP;MVCD2

## Product Information

| Source | Purification |
|---|---|
| HEK293 cells | ≥ 95 % as determined by SDS-PAGE. |

| Calculated MW | Observed MW |
|---|---|
| 19.23 kDa | 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.

## Contact


400-999-6126

cn.market@abclonal.com.cn

www.abclonal.com.cn


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## 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.

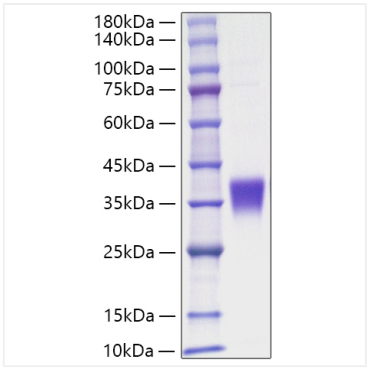
**Bio-Activity**
1.Measured by its binding ability in a functional ELISA. Immobilized Human EPO Protein at 5μg/mL (100 μL/well) can bind EPOR with a linear range of 0.12-23.83 ng/mL.|2.Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The $ED_{50}$ for this effect is 0.03-0.12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

**Shipping**
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

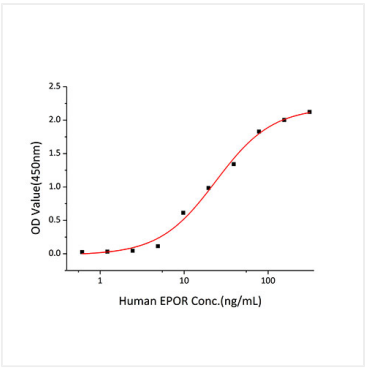
**Storage**
Store at -20℃.Store the lyophilized protein at -20℃ to -80 ℃ up to 1 year from the date of receipt.
After reconstitution, the protein solution is stable at -20℃ for 3 months, at 2-8℃ for up to 1 week.
Avoid repeated freeze/thaw cycles.

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

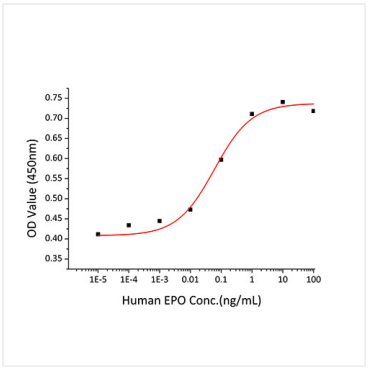
## Validation Data




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.




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 $8.3 \times 10^6$~$3.33\times 10^7$ units/mg.