



Synonym

EPO, EP, MVCD2, Erythropoietin, Erythropoetin, Erthropoyetin, Hematopoietin, Hemopoietin

Source

Human EPO Protein, premium grade (EPO-H4214) is expressed from human 293 cells (HEK293). It contains AA Ala 28 - Arg 193 (Accession # [AAH93628.1](#)).

Predicted N-terminus: Ala 28

It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.

Molecular Characterization

EPO(Ala 28 - Arg 193)
AAH93628.1

This protein carries no "tag".

The protein has a calculated MW of 18.4 kDa. The protein migrates as 28-35 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 0.1 EU per µg by the LAL method.

Sterility

Negative

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

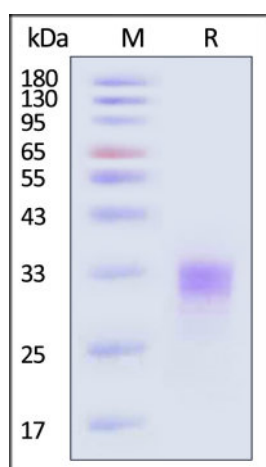
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



Human EPO Protein, premium grade on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

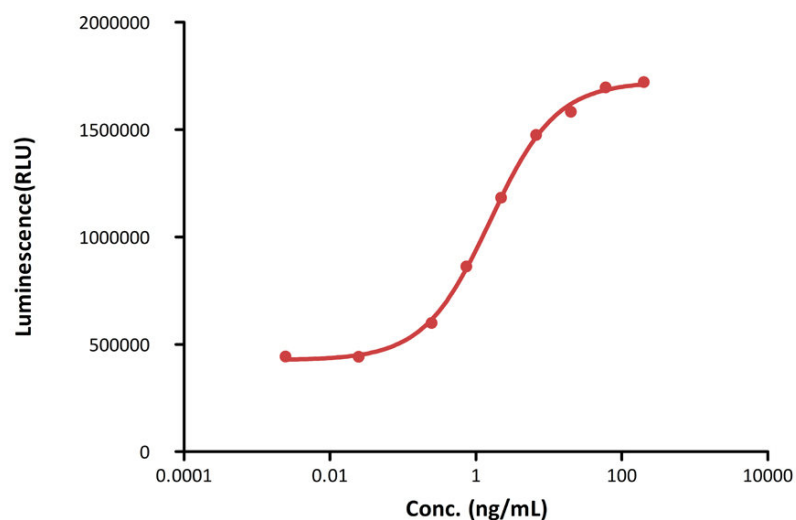
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Bioactivity-Bioactivity CELL BASE

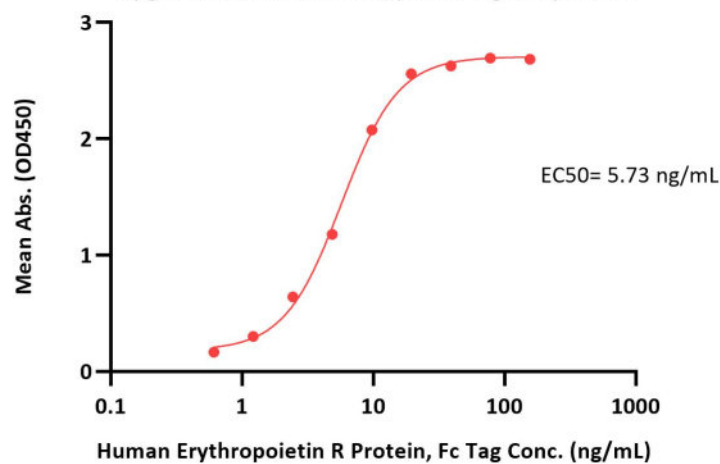
Human EPO Protein, premium grade stimulates proliferation of TF-1 cells



Human EPO Protein, premium grade (Cat. No. EPO-H4214) stimulates proliferation of Human TF-1 Cell. The EC50 value of this effect is 1.36-1.565 ng/mL (Routinely tested).

Bioactivity-ELISA

Human EPO Protein, premium grade ELISA
1 µg of Human EPO Protein, premium grade per well



Immobilized Human EPO Protein, premium grade (Cat. No. EPO-H4214) at 10 µg/mL (100 µL/well) can bind Human Erythropoietin R Protein, Fc Tag (Cat. No. ERR-H5253) with a linear range of 0.6-10 ng/mL (QC tested).

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. EPO is a cytokine for erythrocyte (red blood cell) precursors in the bone marrow. is synthesized by renal peritubular cells in adults, with a small amount being produced in the liver. Regulation is believed to rely on a feed-back mechanism measuring blood oxygenation. Constitutively synthesized transcription factors for EPO, known as hypoxia-inducible factors (HIFs), are hydroxylated and proteosomally digested in the presence of oxygen. It binds to the erythropoietin receptor (EpoR) on the red cell surface and activates a JAK2 cascade. Erythropoietin has its primary effect on red blood cells by promoting red blood cell survival through protecting these cells from apoptosis. It also cooperates with various growth factors involved in the development of precursor red cells. EPO has a range of actions including vasoconstriction-dependent hypertension, stimulating angiogenesis, and inducing proliferation of smooth muscle fibers. It has also been shown that erythropoietin can increase iron absorption by suppressing the hormone hepcidin. Erythropoietin has been shown to interact with the Erythropoietin receptor as its mechanism of action within the body. erythropoietin plays an important role in the brain's response to neuronal injury. EPO is also involved in the wound healing process.

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