Recombinant Human EPO Protein

Product Name

Recombinant Human EPO Protein

Size/Catalog Number

50μg / TL636-0050

100μg / TL636-0100

Product Information

Synonyms: MVCD2, Erythropoietin, Erythropoetin , Erthropoyetin , Hematopoietin , Hemopoietin

Accession: Uniprot P01588

Expressed Region: Ala28-Arg193

Tag: C-terminal 6×His-tag

Expression system: HEK293 cells

Predicted Molecular weight: 19.2 kDa

Purity: > 90% as determined by SDS-PAGE

Endotoxin: < 0.1 EU per 1 μg of protein (LAL method)

Activity: Demonstrates a specific activity of ≥1.0×10^6 IU/mg in TF-1 cell proliferation assays.

Form： Lyophilized from sterile 20mM phosphate-buffered saline (PBS), pH 7.4, normally containing 6–8% (w/v) mannitol as protectant.

Background

Recombinant human erythropoietin (EPO) is a glycosylated cytokine essential for erythropoiesis, specifically promoting the proliferation and differentiation of erythroid progenitor cells (CFU-E) into mature erythrocytes. While renal production maintains physiological EPO levels in adults, hepatic synthesis predominates during fetal and neonatal development. Beyond its canonical role in hematopoiesis, EPO exhibits pleiotropic bioactivities, including angiogenic stimulation via vascular smooth muscle cell proliferation, neuroprotective effects under hypoxic conditions, and modulation of B-cell function. The recombinant protein retains native conformational integrity, ensuring targeted activation of the EPO receptor (EPOR) to orchestrate tissue-specific responses without off-target interactions, making it invaluable for therapeutic applications in anemia treatment and regenerative medicine.

Stability & Storage

Lyophilized powder: Stable for 12 months at -80°C or 6 months at -20°C when stored in the original sealed container under desiccant.

Reconstitution: Dissolve in sterile Water for Injection, 0.9% NaCl, or PBS (pH 7.4) maintaining final concentration ≥100 μg/mL to prevent adsorption.

Handling: Aliquot to avoid repeated freeze-thaw cycles.

References

1. Koutsoumparis A, Vassili A, Bakopoulou A, Ziouta A, Tsiftsoglou AS. Erythropoietin (rhEPOa) promotes endothelial transdifferentiation of stem cells of the apical papilla (SCAP). Arch Oral Biol. 2018 Dec;96:96-103.

2. Haile DW, Durussel J, Mekonen W, Ongaro N, Anjila E, Mooses M, Daskalaki E, Mooses K, McClure JD, Sutehall S, Pitsiladis YP. Effects of EPO on Blood Parameters and Running Performance in Kenyan Athletes. Med Sci Sports Exerc. 2019 Feb;51(2):299-307.

Intended Us

For research and manufacturing purposes only.