Technical Data Sheet

Recombinant human EPO protein

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Lot Specific Information

Lot Number: **Lot Specific***

Total Protein: **Lot Specific***

*This information will be noted on the certificate of analysis that ships with this product.

Shelf Life

This product has a guaranteed shelf-life of one year from the date of customer receipt when stored as recommended.

Product Information

Catalog Number:	**RP091**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Maintenance and differentiation of hematopoietic stem cells Proliferation and differentiation of erythrocytes, leukocytes and platelets Maintenance of cardiac progenitor cells
Formulation:	Lyophilized, white powder
Endotoxin:	≤0.5 EU/mg, LAL assay
Purity:	≥95%; SDS-PAGE
Reconstitution:	Resuspend in sterile-filtered water at >50 µg/ml. Once reconstituted, store in single-use aliquots to avoid freeze-thaw cycles. Store reconstituted protein at -20 °C to -80 °C for a maximum of 12 months or until the expiry date if sooner.
Sterility:	Sterile
Production:	Microbial. Expressed in E. coli
Molecular Weight:	18.4 kDa (monomer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human EPO protein (erythropoietin) is a 30.4 kDa glycoprotein hormone and essential cytokine, produced mainly by the kidneys, that controls erythropoiesis, the production of red blood cells. EPO binds the EPO receptor (EPOR), a single-pass member of the cytokine receptor superfamily whose ligand-induced dimerization leads to phosphorylation and activation of Janus kinase 2 (JAK-2) and downstream STAT-5, PI-3K/AKT and SHC/MAPK signaling. Hypoxia stimulates EPO expression, promoting viability, proliferation and terminal differentiation of erythroid precursors to increase red blood cell mass, and basal EPO levels maintain circulating red blood cell and hemoglobin levels, so that loss of EPO through neutralizing antibodies or chronic kidney disease leads to anemia. In cell culture, recombinant EPO is combined with SCF, TPO, Flt3L, IL-7 and IL-15 to differentiate hematopoietic progenitors into eight lineages, including erythrocytes, platelets, macrophages, granulocytes, dendritic cells, NK, B and T cells, and is used in cardiac progenitor cell culture, with human EPO also suitable for mouse hematopoietic and cardiac progenitors, making it a key reagent for hematopoiesis research. This protein is optimized for in vivo and functional applications: low-endotoxin, tag-free, and carrier-free, supporting reproducible performance in demanding preclinical and bioactivity studies. A GMP-grade version of this protein is available for cell and gene therapy manufacturing. Contact us at customerservice@bioxcell.com for details. Species reactivity: human. Species similarity: mouse - 80%, rat - 83%, bovine - 83%, porcine - 82%.

Storage

Store at the stock concentration at 4°C . **Do not freeze.**

It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at https://bioxcell.com/faqs.

Store lyophilized protein between -20 °C and -80 °C until the date of expiry. Avoid freeze-thaw cycles

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