

## Recombinant Human EPO Protein

Catalog Number: GMP-TL636

### Product Name

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| Generic Name | Recombinant Human EPO Protein  |
| Synonym      | EP, MVCD2, Erythropoietin, Erythropoetin, Erthropoyetin, Hematopoietin, Hemopoietin. |

### Product Information

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| Protein sequence    | A DNA sequence encoding the human EPO (NP_000790.2) was expressed with a His-tag at the C-terminus.  |
| Expression Host     | HEK293 cells   |
| QC Testing Purity   | > 90 % as determined by SDS-PAGE   |
| Activity            | Determined by the dose-dependent stimulation of the proliferation of TF-1 cells. The expected ED <sub>50</sub> for this effect is ≤ 0.5 ng/ml.   |
| Endotoxin Level     | < 0.1 EU per 1 µg of the protein by the LAL method.  |
| Molecular Mass      | The recombinant human EPO protein consists of 172 amino acids and predicts a molecular mass of 19.2 kD.  |
| Formulation         | Lyophilized from sterile PBS, pH 7.4. Normally 6 % mannitol are added as protectants before lyophilization.<br>24 months at 2 °C to 8 °C in lyophilized state.   |
| Stability & Storage | 6 months at -20 °C under sterile conditions after reconstitution.<br>12 months at -80 °C under sterile conditions after reconstitution.<br>Recommend to aliquot the protein into smaller quantities after reconstituting with water for injection, normal saline or PBS, and keep the diluted concentration above 100 µg/mL.<br>Avoid repeated freeze-thaw cycles. |

### Background

Erythropoietin (EPO) is a glycoprotein hormone known primarily for its role in erythropoiesis, which is responsible for the proliferation and differentiation of erythroid progenitor cells. CFU-E cells can differentiate into erythrocytes in the presence of EPO. The physiological level of EPO in adult mammals is mainly maintained by the kidneys, while the level of EPO in fetuses or newborn mammals is maintained by the liver. EPO also exerts a variety of non-haematopoietic activities, including vascularization and smooth muscle proliferation, neuroprotection in hypoxia, and stimulation of some B cells.

### References

1. Erythropoietin (rhEPOa) promotes endothelial transdifferentiation of stem cells of the apical papilla (SCAP). Koutsoumparis A, Vassili A, Bakopoulou A, Ziouta A, Tsiftoglou AS. Arch Oral Biol. 2018 Sep 3;96:96-103. doi: 10.1016/j.archoralbio.2018.09.001.
2. Effects of EPO on Blood Parameters and Running Performance in Kenyan Athletes. Haile DW, Durussel J, Mekonen W, Ongaro N, Anjila E, Mooses M, Daskalaki E, Mooses K, McClure JD, Sutehall S, Pitsiladis YP. Med Sci Sports Exerc. 2018 Sep 4. doi: 10.1249/MSS.0000000000001777.