

Rat Erythropoietin / EPO Protein (His Tag)

Catalog Number: 80055-R08B



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

EPO

Protein Construction:

A DNA sequence encoding the rat EPO (P29676-1) (Met 1-Arg 192) was fused with a polyhistidine tag at the C-terminus.

Source: Rat

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio-Activity

1. Measured by its ability to bind human EPOR-Fc (Cat:10707-H02H) in a functional ELISA.
2. Measured by its ability to bind biotinylated human EPOR-His (Cat:10707-H08H) in a functional ELISA.
3. Measured by its ability to bind mouse EPOR-Fch (Cat:50031-M03H) in a functional ELISA.
4. Measured by its ability to bind human EPOR & CD131-Fc (Cat:CT010-H02H) in a functional ELISA.
5. Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED50 for this effect is typically 8-40 ng/ml.

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Ala 27

Molecular Mass:

The recombinant rat EPO comprises 176 amino acids with and has a predicted molecular mass of 20 kDa. It migrates as an approximately 27 kDa band in reduced SDS-PAGE.

Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

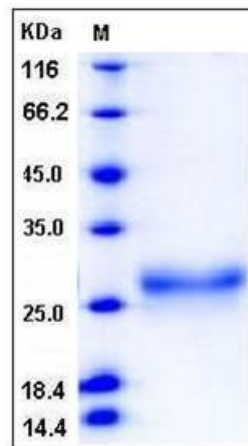
Usage Guide

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Erythropoietin, also known as EPO, is a secreted protein which belongs to the EPO / TPO family. Erythropoietin / EPO is the principal hormone involved in the regulation of erythrocyte differentiation and the maintenance of a physiological level of circulating erythrocyte mass. Erythropoietin / EPO is produced by kidney or liver of adult mammals and by liver of fetal or neonatal mammals. EPO is produced mainly by peritubular fibroblasts of the renal cortex. It is synthesized by renal peritubular cells in adults, with a small amount being produced in the liver. Erythropoietin / EPO is a glycoprotein hormone that controls erythropoiesis, or red blood cell production. It is a cytokine for erythrocyte (red blood cell) precursors in the bone marrow. Erythropoietin / EPO is the hormone that regulates red blood cell production. It plays an important role in the brain's response to neuronal injury. Erythropoietin / EPO is also involved in the wound healing process. Regulation is believed to rely on a feed-back mechanism measuring blood oxygenation. Erythropoietin / EPO binds to the erythropoietin receptor (EPOR) on the red cell surface and activates a JAK2 cascade. EPOR is also found in a large number of tissues such as bone marrow cells and peripheral/central nerve cells, many of which activate intracellular biological pathways upon binding with EPO. Genetic variation in EPO is associated with susceptibility to microvascular complications of diabetes type 2 (MVC2D). These are pathological conditions that develop in numerous tissues and organs as a consequence of diabetes mellitus.

References

1. Lin FK, et al., 1985, Proc. Natl. Acad. Sci. USA.82 (22): 7580-4.
2. Fisher JW, et al., 1996, British journal of haematology. 95 (1): 27-32.
3. Macdougall IC, et al., 2000, Semin. Nephrol.20 (4): 375-81.
4. Siren AL et al., 2001. Proc Natl Acad Sci USA98 (7): 4044-9.
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6. Jelkmann W, et al., 2007, Eur. J. Haematol.78 (3): 183-205.

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Fax :+86-10-51029969 • Tel:+86-400-890-9989 • <http://www.sinobiological.com>