

# Epo (7D10): sc-80995

## BACKGROUND

Erythropoietin, or Epo, is the primary factor responsible for regulating erythropoiesis during steady-state conditions and in response to blood loss and hemorrhage in the adult organism. In addition, Epo has also been shown to play a role in primitive embryonic erythropoiesis. Epo is synthesized by the kidney and stimulates the proliferation and maturation of bone marrow erythroid precursor cells. Circulating Epo is a 165 amino acid glycoprotein. The Epo receptor, EpoR, is a glycoprotein expressed on megakaryocytes, erythroid progenitors and endothelial cells. Overexpression of Epo is associated with several pathophysiological conditions, such as polycythemia vera, which is caused by the Epo-independent growth of erythrocytic progenitors from abnormal stem cells. A deficiency in Epo expression has been associated with afflictions such as anemia of chronic disease (ACD), frequently found in rheumatoid arthritis (RA) patients.

## REFERENCES

1. Jelkmann, W. 1992. Erythropoietin: structure, control of production, and function. *Physiol. Rev.* 72: 449-489.
2. Dai, C.H., et al. 1992. Polycythemia vera. II. Hypersensitivity of bone marrow erythroid, granulocyte-macrophage, and megakaryocyte progenitor cells to interleukin-3 and granulocyte-macrophage colony-stimulating factor. *Blood* 80: 891-899.
3. Takahashi, T., et al. 1995. Characterization of three erythropoietin (Epo)-binding proteins in various human Epo-responsive cell lines and in cells transfected with human Epo-receptor cDNA. *Blood* 85: 106-114.

## CHROMOSOMAL LOCATION

Genetic locus: EPO (human) mapping to 7q22.1.

## SOURCE

Epo (7D10) is a mouse monoclonal antibody raised against recombinant Epo of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Epo (7D10) is recommended for detection of Epo of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Epo siRNA (h): sc-37220, Epo shRNA Plasmid (h): sc-37220-SH and Epo shRNA (h) Lentiviral Particles: sc-37220-V.

Molecular Weight of Epo: 37 kDa.

Positive Controls: human hepatoma whole cell lysate.

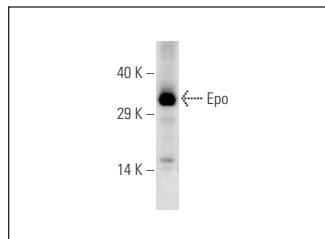
## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



Epo (7D10): sc-80995. Western blot analysis of Epo expression in human hepatoma whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Abhold, E., et al. 2011. Recombinant human erythropoietin promotes the acquisition of a malignant phenotype in head and neck squamous cell carcinoma cell lines *in vitro*. *BMC Res. Notes* 4: 553.
2. Li, J., et al. 2015. Effect of SDF-1/CXCR4 axis on the migration of transplanted bone mesenchymal stem cells mobilized by erythropoietin toward lesion sites following spinal cord injury. *Int. J. Mol. Med.* 36: 1205-1214.
3. Ma, J., et al. 2016. Zinc finger protein 91 (ZFP91) activates HIF-1α via NFκB/p65 to promote proliferation and tumorigenesis of colon cancer. *Oncotarget* 7: 36551-36562.
4. Nag, S. and Resnick, A. 2017. Stabilization of hypoxia inducible factor by cobalt chloride can alter renal epithelial transport. *Physiol. Rep.* 5: e13531.
5. Zhang, J., et al. 2018. Renoprotective effect of erythropoietin via modulation of the Stat6/MAPK/NFκB pathway in ischemia/reperfusion injury after renal transplantation. *Int. J. Mol. Med.* 41: 25-32.
6. Greenwald, A.C., et al. 2019. VEGF expands erythropoiesis via hypoxia-independent induction of erythropoietin in noncanonical perivascular stromal cells. *J. Exp. Med.* 216: 215-230.
7. Greenwald, A.C., et al. 2019. VEGF expands erythropoiesis via hypoxia-independent induction of erythropoietin in noncanonical perivascular stromal cells. *J. Exp. Med.* 216: 215-230.
8. Yang, J.T., et al. 2021. Docosahexaenoic acid suppresses expression of adipogenic tetranectin through sterol regulatory element-binding protein and forkhead box O protein in pigs. *Nutrients* 13: 2315.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.