SANTA CRUZ BIOTECHNOLOGY, INC.

Epo (H-162): sc-7956

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Erythropoietin (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 been shown to play a role in primitive embryonic erythropoiesis. It 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 polycythemias 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.

CHROMOSOMAL LOCATION

Genetic locus: EPO (human) mapping to 7q22.1; Epo (mouse) mapping to 5 G2.

SOURCE

Epo (H-162) is a rabbit polyclonal antibody raised against amino acids 28-189 of Epo of human origin.

PRODUCT

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

APPLICATIONS

Epo (H-162) is recommended for detection of Epo of mouse, rat and 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Epo siRNA (h): sc-37220, Epo siRNA (m): sc-37221, Epo shRNA Plasmid (h): sc-37220-SH, Epo shRNA Plasmid (m): sc-37221-SH, Epo shRNA (h) Lentiviral Particles: sc-37220-V and Epo shRNA (m) Lentiviral Particles: sc-37221-V.

Molecular Weight of Epo: 37 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214 or human hepatoma whole cell lysate.

STORAGE

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

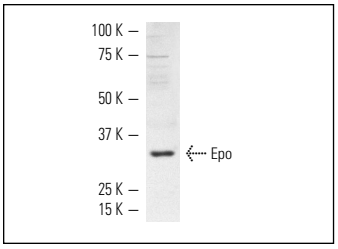
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

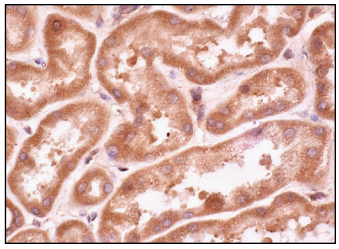
RESEARCH USE

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

DATA



Epo (H-162): sc-7956. Western blot analysis of Epo expression in KNRK whole cell lysate.



Epo (H-162): sc-7956. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Acs, G., et al. 2001. Erythropoietin and erythropoietin receptor expression in human cancer. Cancer Res. 61: 3561-3565.
2. Sanchez, P.E., et al. 2009. Erythropoietin receptor expression is concordant with erythropoietin but not with common β chain expression in the rat brain throughout the life span. J. Comp. Neurol. 514: 403-414.
3. Anderson, J., et al. 2009. Impaired expression of neuroprotective molecules in the HIF-1α pathway following traumatic brain injury in aged mice. J. Neurotrauma 26: 1557-1566.
4. MacRedmond, R., et al. 2009. Erythropoietin inhibits respiratory epithelial cell apoptosis in a model of acute lung injury. Eur. Respir. J. 33: 1403-1414.
5. Chen, J., et al. 2009. Suppression of retinal neovascularization by erythropoietin siRNA in a mouse model of proliferative retinopathy. Invest. Ophthalmol. Vis. Sci. 50: 1329-1335.
6. Wu, C.L., et al. 2010. Erythropoietin and sonic hedgehog mediate the neuroprotective effects of brain-derived neurotrophic factor against mitochondrial inhibition. Neurobiol. Dis. 40: 146-154.
7. Mazur, M., et al. 2010. Postnatal erythropoietin treatment mitigates neural cell loss after systemic prenatal hypoxic-ischemic injury. J. Neurosurg. Pediatr. 6: 206-221.
8. Francis, K.R., et al. 2010. Human embryonic stem cell neural differentiation and enhanced cell survival promoted by hypoxic preconditioning. Cell Death Dis. 1: e22.
9. Ryou, M.G., et al. 2012. Pyruvate protects the brain against ischemia-reperfusion injury by activating the erythropoietin signaling pathway. Stroke 43: 1101-1107.