SANTA CRUZ BIOTECHNOLOGY, INC.

# EpoR (D-5): sc-365662

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Erythropoiesis is regulated through the interaction of erythropoietin (Epo) with its receptor, EpoR, a member of the cytokine superfamily of receptors. The human EpoR is a 507 amino acid transmembrane protein that forms homodimers following erythropoietin activation and is related to the interleukin 2 (IL-2) receptor β-chain subunit (IL-2Rβ). EpoR and IL-2Rβ share 45% amino acid identity within the box 1 and box 2 domains of their cytoplasmic regions while their remaining cytoplasmic sequences are highly divergent. These conserved domains are both required and sufficient for mitogenesis and for coupling ligand binding to the induction of tyrosine phosphorylation. The membrane proximal region is also required for the association of JAK2 with EpoR. The existence of multiple cross-linked complexes and differential ligand affinities suggests that EpoR may exist as a multireceptor complex.

## CHROMOSOMAL LOCATION

Genetic locus: EPOR (human) mapping to 19p13.2.

## SOURCE

EpoR (D-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 491-513 within a C-terminal cytoplasmic domain of EpoR of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_3$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EpoR (D-5) is available conjugated to agarose (sc-365662 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365662 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-365662 PE), fluorescein (sc-365662 FITC) or Alexa Fluor® 488 (sc-365662 AF488) or Alexa Fluor® 647 (sc-365662 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-365662 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

EpoR (D-5) is recommended for detection of EpoR of human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for EpoR siRNA (h): sc-37092, EpoR shRNA Plasmid (h): sc-37092-SH and EpoR shRNA (h) Lentiviral Particles: sc-37092-V.

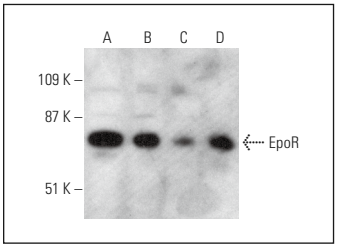
Molecular Weight of EpoR: 64-78 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

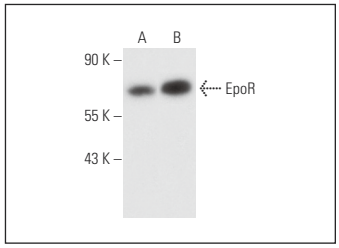
## STORAGE

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

## DATA




EpoR (D-5) HRP: sc-365662 HRP. Direct western blot analysis of EpoR expression in K-562 + GMCSF (**A**), HeLa (**B**), A-431 (**C**) and HL-60 (**D**) whole cell lysates.




EpoR (D-5): sc-365662. Western blot analysis of EpoR expression in GM-CSF treated K-562 (**A**) and Jurkat (**B**) whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Liang, K., et al. 2014. Autocrine/paracrine erythropoietin regulates migration and invasion potential and the stemness of human breast cancer cells. Cancer Biol. Ther. 15: 89-98.
2. Tankiewicz-Kwedlo, A., et al. 2018. Simultaneous use of erythropoietin and LFM-A13 as a new therapeutic approach for colorectal cancer. Br. J. Pharmacol. 175: 743-762.
3. Gussenhoven, R., et al. 2018. Chorioamnionitis, neuroinflammation, and injury: timing is key in the preterm ovine fetus. J. Neuroinflammation 15: 113.
4. Li, J., et al. 2020. HIF-1α attenuates neuronal apoptosis by upregulating EPO expression following cerebral ischemia-reperfusion injury in a rat MCAO model. Int. J. Mol. Med. 45: 1027-1036.
5. Vázquez-Méndez, E., et al. 2020. Recombinant erythropoietin provides protection against renal fibrosis in adenine-induced chronic kidney disease. Mediators Inflamm. 2020: 8937657.
6. Liu, X., et al. 2020. Role of the erythropoietin receptor in lung cancer cells: erythropoietin exhibits angiogenic potential. J. Cancer 11: 6090-6100.
7. Scotland, K.B., et al. 2021. Mediators of human ureteral smooth muscle contraction—a role for erythropoietin, tamsulosin and Gli effectors. Transl. Androl. Urol. 10: 2953-2961.
8. Cho, B., et al. 2021. Second-generation non-hematopoietic erythropoietin-derived peptide for neuroprotection. Redox Biol. 49: 102223.


## RESEARCH USE

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

## PROTOCOLS

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