SANTA CRUZ BIOTECHNOLOGY, INC.

EpoR (M-20): sc-697

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; Epor (mouse) mapping to 9 A3.

SOURCE

EpoR (M-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of EpoR of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-697 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

EpoR (M-20) is recommended for detection of erythropoietin (Epo) receptor 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with HSP70.

Suitable for use as control antibody for EpoR siRNA (h): sc-37092, EpoR siRNA (m): sc-39959, EpoR shRNA Plasmid (h): sc-37092-SH, EpoR shRNA Plasmid (m): sc-39959-SH, EpoR shRNA (h) Lentiviral Particles: sc-37092-V and EpoR shRNA (m) Lentiviral Particles: sc-39959-V.

Molecular Weight of EpoR: 64-78 kDa.

Positive Controls: GM-CSF-treated K-562 whole cell lysate, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

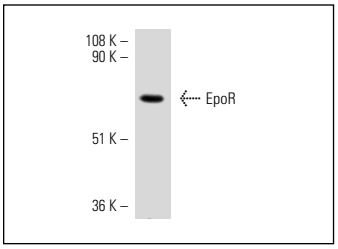
STORAGE

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

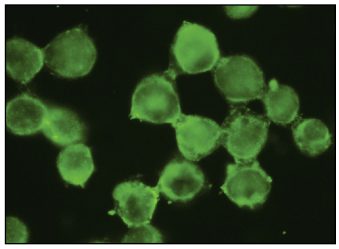
RESEARCH USE

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

DATA



EpoR (M-20): sc-697. Western blot analysis of EpoR expression in GM-CSF-treated K-562 whole cell lysate.



EpoR (M-20): sc-697. Immunofluorescence staining of methanol-fixed K-562 cells showing membrane localization.

SELECT PRODUCT CITATIONS

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3. Gorantla, S.P., et al. 2010. Oncogenic JAK2V617F requires an intact SH2-like domain for constitutive activation and induction of a myeloproliferative disease in mice. Blood 116: 4600-4611.
4. Su, K.H., et al. 2011. β common receptor integrates the erythropoietin signaling in activation of endothelial nitric oxide synthase. J. Cell. Physiol. 226: 3330-3339.
5. Ghaboura, N., et al. 2011. Diabetes mellitus abrogates erythropoietin-induced cardioprotection against ischemic-reperfusion injury by alteration of the RISK/GSK-3β signaling. Basic Res. Cardiol. 106: 147-162.
6. Pérès, E.A., et al. 2011. Targeting the erythropoietin receptor on glioma cells reduces tumour growth. Exp. Cell Res. 317: 2321-2332.
7. Bachmann, J., et al. 2011. Division of labor by dual feedback regulators controls JAK2/STAT5 signaling over broad ligand range. Mol. Syst. Biol. 7: 516.
8. Grigorakaki, C., et al. 2011. Tumor necrosis factor α-mediated inhibition of erythropoiesis involves GATA-1/GATA-2 balance impairment and PU.1 over-expression. Biochem. Pharmacol. 82: 156-166.