



## EpoR (MM0031-6G7): sc-101444

### 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  $\beta$  chain subunit (IL-2R $\beta$ ). EpoR and IL-2R $\beta$  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.

### REFERENCES

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3. Murakami, M., Narazaki, M., Hibi, M., Yawata, H., Yasukawa, K., Hamaguchi, M., Taga, T. and Kishimoto, T. 1991. Critical cytoplasmic region of the interleukin-6 signal transducer gp130 is conserved in the cytokine receptor family. *Proc. Natl. Acad. Sci. USA* 88: 11349-11353.
4. Youssoufian, H., Longmore, G., Neumann, D., Yoshimura, A. and Lodish, H.F. 1993. Structure, function and activation of the erythropoietin receptor. *Blood* 81: 2223-2236.
5. Miura, O., Cleveland, J.L. and Ihle, J.N. 1993. Inactivation of erythropoietin receptor function by point mutations in a region having homology with other cytokine receptors. *Mol. Cell. Biol.* 13: 1788-1795.
6. Watowich, S.S., Hilton, D.J. and Lodish, H.F. 1994. Activation and inhibition of erythropoietin receptor function: role of receptor dimerization. *Mol. Cell. Biol.* 14: 3535-3549.
7. Takahashi, T., Chiba, S., Hirano, N., Yazaki, Y. and Hirai, H. 1995. Characterization of three erythropoietin (Epo)-binding proteins with various human Epo-responsive cell lines and in cells transfected with human Epo-receptor cDNA. *Blood* 85: 106-114.

### CHROMOSOMAL LOCATION

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

### SOURCE

EpoR (MM0031-6G7) is a mouse monoclonal antibody raised against the extracellular domain of EpoR of human origin.

### STORAGE

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

### PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

EpoR (MM0031-6G7) is recommended for detection of EpoR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for EpoR siRNA (h): sc-37092.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### RESEARCH USE

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

### PROTOCOLS

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