

DESCRIPTION

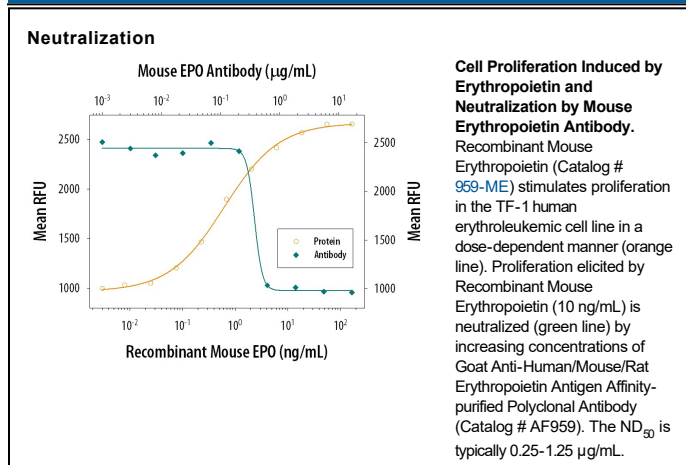
Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse, and rat Erythropoietin (Epo) in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant mouse Thymopoietin (Tpo) is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant mouse Erythropoietin Ala27-Arg192 Accession # P07321
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human Erythropoietin (Ultrapure) (Catalog # 286-EP) Recombinant Mouse Erythropoietin (Catalog # 959-ME) Recombinant Rat Erythropoietin (Catalog # 1306-RE)
Neutralization		Measured by its ability to neutralize Erythropoietin-induced proliferation in the TF-1 human erythroleukemic cell line [Kitamura, T. <i>et al.</i> (1989) <i>J. Cell Physiol.</i> 140 :323]. The Neutralization Dose (ND ₅₀) is typically 0.25-1.25 µg/mL in the presence of 10 ng/mL Recombinant Mouse Erythropoietin.

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Erythropoietin (Epo) is a 34 kDa glycoprotein hormone in the type I cytokine family and is related to thrombopoietin (1). Its three N-glycosylation sites, four alpha helices, and N- to C-terminal disulfide bond are conserved across species (2, 3). Glycosylation of Epo is required for biological activities *in vivo* (4). Mature mouse Epo shares 95% amino acid sequence identity with rat Epo and 73% - 82% with bovine, canine, equine, feline, human, ovine, and porcine EPO. Epo is primarily produced in the kidney by a population of fibroblast-like cortical interstitial cells adjacent to the proximal tubules (5). It is also produced in much lower, but functionally significant amounts by fetal hepatocytes and in adult liver and brain (6 - 8). Epo promotes erythrocyte formation by preventing the apoptosis of early erythroid precursors which express the Epo receptor (Epo R) (8, 9). Epo R has also been described in brain, retina, heart, skeletal muscle, kidney, endothelial cells, and a variety of tumor cells (7, 8, 10, 11). Ligand induced dimerization of Epo R triggers JAK2-mediated signaling pathways followed by receptor/ligand endocytosis and degradation (1, 12). Rapid regulation of circulating Epo allows tight control of erythrocyte production and hemoglobin concentrations. Anemia or other causes of low tissue oxygen tension induce Epo production by stabilizing the hypoxia-inducible transcription factors HIF-1 α and HIF-2 α (1, 6). Epo additionally plays a tissue-protective role in ischemia by blocking apoptosis and inducing angiogenesis (7, 8, 13).

References:

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