3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-Erythropoietin
produced in rabbit, IgG fraction of antiserum

Catalog Number **E2531**

Product Description

Anti-Erythropoietin is produced in rabbit using as immunogen recombinant human erythropoietin (Epo), expressed in CHO cells. Total IgG was purified by Protein A affinity chromatography.

Anti-Erythropoietin reacts with human erythropoietin by various immunochemical techniques including immunoblotting, indirect ELISA, immunohistochemistry, and neutralization.

Erythropoietin has been cloned from various species including human, murine, canine, etc. The mature proteins from the various species are highly conserved, exhibiting greater than 80% amino acid sequence identity. Erythropoietin, a glycoprotein produced primarily by the kidney, and at lower levels by the liver, is the primary regulatory factor of erythropoiesis.[1] Epo promotes the proliferation, differentiation, and survival of the erythroid progenitors. Epo stimulates erythro-poiesis by inducing growth and differentiation of burst forming units and colony forming units into mature red blood cells.[2] Epo production by kidney cells is increased in response to hypoxia or anemia. The biological effects of erythropoietin are mediated by the erythropoietin receptor, which binds Epo with high affinity and is a potent Epo antagonist. When Epo is present at low concentrations, the Epo receptor initiates prolongation of G_1 in the cell cycle and sends a differentiation signal; whereas at high Epo concentrations, a proliferation signal is generated and the G_1 is shortened.[3]

Reagent

Lyophilized from 0.2 μm-filtered solution in phosphate buffered saline containing carbohydrates.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

To one vial of lyophilized powder, add 1 mL of 0.2 μm-filtered phosphate buffered saline to produce a 1.0 mg/mL stock solution of antibody. If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

Storage/Stability

Prior to reconstitution, store at –20 °C. Reconstituted product may be stored at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots. Avoid repeated freezing and thawing.

Product Profile

Anti-Erythropoietin is tested for its ability to neutralize the biological activity of recombinant human Epo (rhEpo) on the human cell line TF-1. The ND_{50} is defined as the concentration of antibody resulting in a one-half maximal inhibition of bioactivity of rhEpo, when rhEpo is present at a concentration just high enough to elicit a maximum response.

Immunoblotting: a working antibody concentration of 1 μg/mL detects recombinant human Epo.

Note: Because this antibody preparation is a total IgG fraction, complete monospecificity cannot be assumed.

Immunohistochemistry: a working antibody concentration of 5-15 μg/mL is recommended to detect Epo in paraffin-embedded tissue sections (5-15 μm thick sections).

Note: In order to obtain the best results in various techniques and preparations, we recommend determining optimal working concentrations by titration.

References

1. Lacombe, C., and Maeux, O., *Haematologica*, **83**, 724-732 (1998).
2. Egrie, J. et al., Human Cytokines, Aggarwal, B. et al., (eds.), Blackwell Scientific Publications, Boston, 383 (1992).
3. Carroll, M. et al., *Proc. Natl. Acad. Sci. USA*, **92**, 2869-2873 (1995).

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