

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Erythropoietin/EPO in direct ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 971019
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line CHO-derived human Erythropoietin/EPO protein Ala28-Arg193 Accession # CAA26094
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Neutralization Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 human EPO shares 75%-84% amino acid sequence identity with bovine, canine, equine, feline, mouse, ovine, porcine, and rat 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-1α and HIF-2α (1, 6). EPO additionally plays a tissue-protective role in ischemia by blocking apoptosis and inducing angiogenesis (7, 8, 13).

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.