



## Product Information

### Erythropoietin

Mouse, Recombinant  
Expressed in mouse NSO cells

Product Number **E 9530**

#### Product Description

Erythropoietin (EPO) is produced from a DNA sequence encoding the signal peptide form human CD33 joined with mature mouse erythropoietin (amino acid residues Ala 27 - Arg 192)<sup>1</sup> expressed in a mouse myeloma cell line, NSO. This recombinant mature mouse erythropoietin, which is generated by proteolytic removal of the human CD33 signal peptide, has a predicted molecular weight of 18.6 kDa. As a result of glycosylation, recombinant mouse EPO migrates to approx. 36 kDa in SDS-PAGE.

Erythropoietin, a glycoprotein produced primarily by the kidney, is the primary regulatory factor of erythropoiesis.<sup>2</sup> Epo promotes the proliferation, differentiation, and survival of the erythroid progenitors. Erythropoietin stimulates erythropoiesis by inducing growth and differentiation of burst forming units and colony forming units into mature red blood cells.<sup>3</sup> Epo produced 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.<sup>4</sup>

Erythropoietin has been cloned from various species including human, murine, canine, and others. The mature proteins from the various species are highly conserved and exhibit greater than 80% amino acid sequence identity. Mouse EPO cDNA encodes a 192 amino acid residue precursor protein that is processed to yield a 166 amino acid residue mature protein. Epo contains three N-linked glycosylation sites. The glycosylation of erythropoietin is required for the biological activities of erythropoietin *in vivo*.

#### Reagent

Recombinant Mouse Erythropoietin is supplied as approximately 10 µg of protein lyophilized from a 0.2 µm filtered solution in phosphate buffered saline containing 0.5 mg of bovine serum albumin.

#### Preparation Instructions

Reconstitute the contents of the vial using 0.2 µm filtered phosphate buffered saline containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 10 µg/ml.

#### Storage/Stability

Store at -20 °C. Upon reconstitution, the cytokine may be stored at 2-8 °C for to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

#### Product Profile

Recombinant Mouse Erythropoietin is measured by its ability to stimulate cell proliferation using TF-1 cells.<sup>5</sup>

Endotoxin: < 1.0 EU (endotoxin unit)/µg as determined by the LAL (Limulus amoebocyte lysate) method.

#### References

1. Shoemaker, C.B., et al., *Mol., Cell. Biol.*, **6**, 849-858 (1986).
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3. Egrie, J., et al., *Human Cytokines*, Aggarwal, B., et al., (eds.), Blackwell Scientific Publications, Boston, 383 (1992).
4. Carroll, M., et al., *Proc. Natl. Acad. Sci. USA*, **92**, 2869-2873 (1995).
5. Kitamura, T., et al., *J. Cell Physiol.*, **140**, 323-334 (1989).

Kaa 09/04

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