

PRODUCT DESCRIPTION

Erythropoietin (EPO) is a glycoprotein produced primarily by the kidney in response to hypoxia or anemia. It is the principal factor that regulates erythropoiesis by stimulating the proliferation and differentiation of erythroid progenitor cells. EPO also stimulates platelet generation.

Mature recombinant human EPO contains 165 amino acid residues and has a predicted molecular mass of approximately 21 kDa. As a result of glycosylation, the recombinant protein migrates with an apparent molecular mass of 37 kDa in SDS-PAGE.

SOURCE

A DNA sequence encoding the human EPO precursor protein¹ was expressed in a Chinese hamster ovary cell line.

PURITY

Endotoxin level is <1.0 EU per 100 units of the cytokine, as determined by the LAL method.

ACTIVITY

Recombinant human EPO is calibrated against the second international reference preparation of erythropoietin.² The *in vitro* biological activity of this preparation is measured in a cell proliferation assay using a factor-dependent human erythroleukemic cell line, TF-1.³ The ED₅₀ for this effect is typically 0.05 - 0.1 units/mL.

FORMULATION

Recombinant human EPO is lyophilized from a 0.2 µm filtered solution of 0.025% bovine serum albumin in phosphate buffered saline (PBS).

RECONSTITUTION

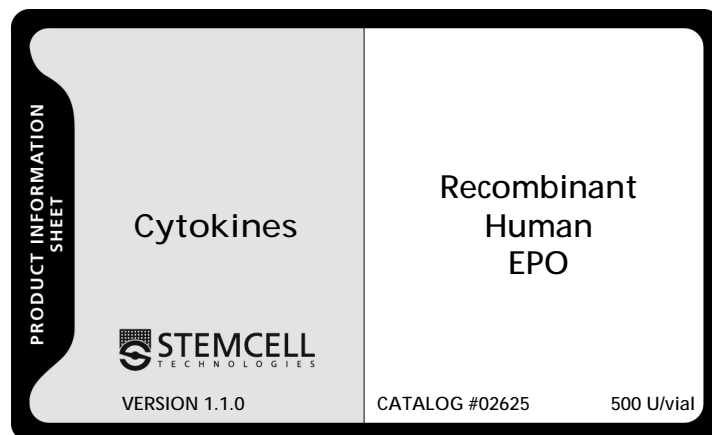
Reconstitute human EPO at a concentration greater than 500 U/mL with sterile phosphate buffered saline (PBS) containing at least 0.1% human or bovine serum albumin.

STABILITY AND STORAGE

Lyophilized human EPO is stable for up to twelve months from date of receipt at -20°C to -70°C.

Reconstituted human EPO can be stored under sterile conditions at 2°C - 8°C for one month, or at -20°C to -70°C (in a manual defrost freezer) for three months without detectable loss of activity.

Avoid repeated freezing and thawing.



REFERENCES

1. Jacobs K, Shoemaker C, Rudersdorf R, Neill SD, Kaufman RJ, Mufson A, Seehra J, Jones SS, Hewick R, Fritsch EF, *et al.*: Isolation and characterization of genomic and cDNA clones of human erythropoietin. *Nature* 313: 806-810, 1985
2. Annable L, Cotes PM, Mussett MV: The second international reference preparation of erythropoietin, human, urinary, for bioassay. *Bull World Health Organ* 47: 99-112, 1972
3. Kitamura T, Tange T, Terasawa T, Chiba S, Kuwaki T, Miyagawa K, Piao YF, Miyazono K, Urabe A, Takaku F: Establishment and characterization of a unique human cell line that proliferates dependently on GM-CSF, IL-3, or erythropoietin. *J Cell Physiol* 140: 323-334, 1989