

Recombinant Canine Erythropoietin

Cat. No. Epo-104C **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Canine EPO was produced in yeast and therefore does not have endotoxin, is naturally folded, and post-translationally modified.
Species	Canine
Source	Yeast
Description	Erythropoietin (EPO) is an essential hormone for red blood cell production. Without it, definitive erythropoiesis does not take place. Erythropoietin has its primary effect on red blood cell progenitors and precursors by promoting their survival through protecting these cells from apoptosis. It is the primary erythropoietic factor that cooperates with various other growth factors (e.g., IL-3, IL-6, glucocorticoids, and SCF) involved in the development of erythroid lineage from multipotent progenitors. Erythropoietin has a range of actions including vasoconstriction-dependent hypertension, stimulating angiogenesis, and inducing proliferation of smooth muscle fibers. It can increase iron absorption by suppressing the hormone hepcidin. EPO is highly glycosylated, with half-life in blood around five hours. The half-life of EPO may vary between endogenous and various recombinant versions. Additional glycosylation or other alterations of EPO via recombinant technology have led to increased stability in blood. EPO binds to the erythropoietin receptor on the red cell progenitor surface and activates a JAK2 signaling cascade. Erythropoietin receptor expression is found in a number of tissues, such as bone marrow and peripheral/central nervous tissue. In the bloodstream, red cells themselves do not express erythropoietin receptor, so cannot respond to EPO. However, indirect dependence of red cell longevity in the

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	blood on plasma erythropoietin levels has been reported, a process termed neocytolysis.
Form	Lyophilized
Molecular Mass	18.4 kDa
AA Sequence	APPRLICDSR VLERYILEAR EAENVTMGCA QGCSFSENIT VPDTKVN FYT WKRMDVGQQA LEVWQGLALL SEAILRGQAL LANASQPSET PQLHVDKAVS SLRSLTSLLR ALGAQKEAMS LPEEASPAPL RTFTVDTLCK LFRIYSNFLR GKLTLYTGEA CRRGDR (166)
Applications	The Canine EPO protein can be used in cell culture, as an EPO ELISA Standard, and as a Western Blot Control.
Storage	-20 C