Canine EPO (recombinant)

Alias: none  Catalog #: 6593
Size: 5 ug  Research Use Only

Molecular Weight: 18.4 kDa
Source: Yeast. Recombinant Canine Erythropoietin was produced in yeast and, therefore, does not have endotoxin. It is naturally folded and post-translationally modified.

Formulation: Lyophilized without carrier protein.
Purity: >95% as visualized by SDS-PAGE analysis.
Purification: Ion-exchange chromatography.
Bioactivity: In testing
Entrez Gene ID: 404002
Number of Amino Acids: 166
Amino Acid Sequence: APPRLICDSR VLERYL EAR EAENV TMGCA QGCSF SENIT VPD TKVNFYT WKRMD VGQQ A LEVWQ GLALL SEALR QGAL LANASQ PSET PQ LHVDKA VS SLRSL T LLLR ALG AQKEAMS LPEEASPAPL RTFTV DTLCK LFRIYSNFLR GKL TLYTGEA CRRGDR (166)

Country of Origin: USA
Reconstitution: Reconstitute with sterile phosphate-buffered saline containing at least 0.1% carrier protein.
Stability and Storage: Stable for up to twelve months from date of receipt at -20°C. Stable for at least 3 months when stored in working aliquots with a carrier protein at -20°C. Avoid repeated freeze/thaw cycles.
Applications: The Canine EPO protein can be used in cell culture, as an EPO ELISA Standard, and as a Western Blot Control.

Background: 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 blood on plasma erythropoietin levels has been reported, a process termed neocytolysis.