Recombinant Feline IL-2 (Cys146Ser)

Catalog Number: 1890-FL

DESCRIPTION

Source	*E. coli*-derived Ala21-Thr154 (Cys146Ser), with and without an N-terminal Met Accession # Q07885
N-terminal Sequence Analysis	Met & Ala21
Predicted Molecular Mass	15.6 kDa

SPECIFICATIONS

Activity	Measured in a cell proliferation assay using CTLL-2 mouse cytotoxic T cells. Gearing, A.J.H. and C.B. Bird (1987) in Lymphokines and Interferons, A Practical Approach. Clemens, M.J. *et al.* (eds): IRL Press. 295. The ED_{50} for this effect is typically 0.02-0.12 ng/mL.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in Sodium Acetate with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Interleukin-2 (IL-2) is a secreted, single chain α-helical polypeptide that has potent stimulatory activity for antigen-activated T cells. The feline IL-2 gene encodes a 154 amino acid (aa) precursor protein with a 20 aa signal peptide plus a 134 aa mature segment. There are suggestions that the mature protein may be O-glycosylated. At the aa sequence level, mature feline IL-2 is 78%, 82%, 60%, 64%, 62%, 75%, 62%, and 76% identical to mature human, canine, mouse, rat, cotton rat, porcine, goat, and equine IL-2, respectively. Mammalian cells known to express IL-2 include $CD4^+$ and $CD8^+$ T cells, visceral smooth muscle cells, eosinophils, γδ T cells, B cells and dendritic cells. The biological activity of IL-2 is mediated by IL-2 receptor complexes consisting of three distinct subunits (α, β, γ) in two combinations. The high-affinity signaling IL-2 receptor complex is a heterotrimer of the IL-2 receptor α, β, γ subunits. The intermediate signaling complex is a heterodimer of the IL-2 Rβ and γ subunits. The non-ligand binding γ subunit, referred to as the common γ subunit (γ_c), is also a subunit of the receptor complexes of IL-4, IL-7, IL-9 and IL-15. Functionally, IL-2 is best known for its autocrine and paracrine activity on T cells. On naïve $CD8^+$ T cells, high IL-2 levels can induce cell proliferation with a bias towards cytotoxicity. In the presence of low levels of IL-2, $CD8^+$ T cells preferentially undergo apoptosis with a bias towards cytokine secretion. IL-2 also seems to play a central role in the expansion and maintenance of $CD4^+$ $CD25^+$ regulatory T cells. This indicates IL-2 may be a key cytokine in the natural suppression of autoimmunity (1 - 9).

References:

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