Recombinant Equine IL-2 (Cys141Ser)

Catalog Number: 1613-IL

DESCRIPTION

Source	*E. coli*-derived Ala21-Thr149 (Cys141Ser), with and without an N-terminal Met Accession # NP_001078902
N-terminal Sequence Analysis	Met & Ala21
Predicted Molecular Mass	15 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 0.3-1.5 µg/mL.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>97%, 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 200 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 was initially identified as a T cell growth factor that is produced by T cells following activation by mitogens or antigens (1). IL-2 has since been found to also stimulate the growth and differentiation of B cells, natural killer (NK) cells, lymphocyte activated killer (LAK) cells, monocytes/macrophages and oligodendrocytes (2).

The biological activity of IL-2 is mediated by the binding of IL-2 to cell surface receptor complexes. The functional high-affinity receptor that mediate IL-2 signals is composed of three polypeptide chains, the IL-2 receptor α, β and γ subunits (3). IL-2 also signals via the intermediate affinity receptor complex of the β and γ subunits (4). In T cells, the β and γ subunits are shared with the IL-15 receptor complex (5). The γ subunit of the IL-2 receptor complex has also been shown to be a subunit of the receptor complexes of IL-4, IL-7, IL-9 and IL-21 (6).

At the amino acid sequence level, equine IL-2 shares 72%, 70%, 56% and 54% sequence similarities with human, porcine, rat and mouse IL-2, respectively. It has been reported that equine IL-2 augmented proliferation in equine peripheral blood mononuclear cells, but has no effect on mouse CTLL-2 cells (7).

References:

1. Morgan, D.A. *et al.* (1976) Science **193**:1007.
2. Smith, K.A. *et al.* (1988) Science **240**:1169.
3. Taniguchi, T. and Y. Minami (1993) Cell **73**:5.
4. Giri, J. *et al.* (1994) EMBO J. **13**:2822.
5. Waldmann, T. *et al.* (1998) Int. Rev. Immunol. **16**:205.
6. Nelson, B.H. and D.M. Willeford (1998) Adv. Immunol. **70**:1.
7. E.V. Vandergrift and D.W. Horohov (1993) Vet. Immunol. Immunopathol. **39**:395.