

Recombinant Rat IL-2

Information

Gene ID	116562
Accession #	P17108
Alternate Names	T-cell Growth Factor, CGF
Source	<i>Escherichia coli</i> .
M.Wt	Approximately 15.5 kDa, a single non-glycosylated polypeptide chain containing 135 amino acids.
AA Sequence	APTSSPAKET QQHLEQLLLD LQVLLRGIDN YKNLKLPMML TFKFYLPKQA TELKHLQCLE NELGALQRVL DLTQSKSFHL EDAGNFISNI RVTVVKLKGS ENKFECQFDD EPATVVEFLR RWIACQSII STMTQ
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
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.
Formulation	A 0.2 µm filtered concentrated sterile solution in 10 mM sodium citrate, pH 4.0.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	Fully biologically active when compared to standard. The ED ₅₀ as determined by a cell proliferation assay using murine CTLL-2 cells is less than 0.2 ng/ml, corresponding to a specific activity of > 5.0 × 10 ⁶ IU/mg.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	5 µg	100 µg	500 µg
Recombinant Rat IL-2	5 µg	100 µg	500 µg

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Quality Control

Purity	> 97 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of rRtIL-2 as determined by LAL method.

Description

IL-2 is a powerful immunoregulatory lymphokine produced by T-cells in response to antigenic or mitogenic stimulation. It is expressed by CD4+ and CD8+ T cells, $\gamma\delta$ T cells, B cells, dendritic cells, and eosinophils. IL-2/IL-2R signaling is required for T-cell proliferation and other fundamental functions which are essential for the immune response. The receptor for IL-2 consists of three subunits (55 kDa IL2R α , 75 kDa IL2R β , 64 kDa common gamma chain γ_c /IL2R γ) that are present on the cell surface in varying preformed complexes. Recombinant rat IL-2 is a 15.3 kDa protein containing 134 amino acid residues and it shares about 82 %, 66 %, 66 %, 60 % and 54 % amino acid sequence identity with mouse, human, rhesus macaque, pig and equus caballus IL-2, respectively.

Reference

1. Ma, A., R. Koka, and P. Burkett. 2006. Annu Rev Immunol, 24: 657-79.
2. Taniguchi, T., H. Matsui, T. Fujita, et al. 1983. Nature, 302: 305-10.
3. Liparoto, S.F., D.G. Myszka, Z. Wu, et al. 2002. Biochemistry, 41: 2543-51.
4. Bodnar, A., E. Nizsaloczki, G. Mocsar, et al. 2008. Immunol Lett, 116: 117-25.
5. Mosmann, T.R., T. Yokota, R. Kastelein, et al. 1987. J Immunol, 138: 1813-6.

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