



## Recombinant Bovine IL-2

Catalog Number: GR104051

### Background

IL-2 is an interleukin, a type of cytokine immune system signaling molecule. IL-2 is a T cell stimulatory cytokine best known for inducing T cell proliferation, the production of immunoglobulins made by B cells and differentiation and proliferation of natural killer cells (1,2). IL-2 is also necessary during T cell development in the thymus for the maturation of a unique subset of T cells that are termed regulatory T cells (T-regs) (3, 4, 5). Conversely, IL-2 is involved in activation induced cell death (AICD) that is observed post T cell expansion by increasing levels of Fas on CD4<sup>+</sup> T cells (6). IL-2 signals through a trimeric receptor complex consisting of IL-2 receptor alpha (CD25), IL-2 receptor beta (CD122) and a common gamma chain ( $\gamma$ c). IL-2  $\alpha$  binds exclusively to IL-2 with low affinity and increases binding affinity of the whole receptor complex including IL-2R $\beta$  and  $\gamma$ c subunits. IL-2R $\beta$  is also used by IL-2. The common  $\gamma$ c is shared by all members of this family of cytokines including IL-4, IL-7, IL-9, IL-2, and IL-21. Binding of IL-2 activates the Ras/MAPK, JAK/Stat and PI 3-kinase/Akt signaling modules (1,2).

### References

1. Ma, A. et al. (2006) *Annu Rev Immunol* 24, 657-79.
2. Gaffen, S.L. and Liu, K.D. (2004) *Cytokine* 28, 109-23.
3. Sakaguchi S, et al (1995). *J. Immunol.* 155 (3): 1151-64.
4. Fehérvári, Z. et al. (2006) *Trends Immunol* 27, 109-11.
5. Antony, P.A. et al. (2006) *J Immunol* 176, 5255-66.
6. Jaleco, S. et al. (2003) *J Immunol* 171, 61-8.



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### Description

Quantity: 10 µg

Accession #: NP\_851340.2

Sources: expressed in *E. coli*.

Composition: Ala21-Thr155

Molecular weight: 15 kDa

Activity: Measured in a cell proliferation assay using MO7e human megakaryocytic leukemic cells.

The ED50 for this effect is 0.6-0.9 µg/ml.

Endotoxin level: <0.2 EU per 1 µg of the protein by the LAL method.

Purity: > 98%, by SDS-PAGE under reducing conditions and visualized by silver staining.

Formulation: Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein.

Reconstitution: reconstitute at 50 µg/ml in sterile PBS and store at -20°C ~ -70°C for up to 3 months.

Shipping and storage: The product is shipped at ambient temperature or with ice pad. Upon receipt, store it immediately at -20°C to avoid loss of activity and use it in 3 months.

### DECLARATION

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

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