

DESCRIPTION

Source	<i>E. coli</i> -derived Ala21-Ser153, with an N-terminal Met Accession # NP_001156652
N-terminal Sequence Analysis	Met & Ala21
Structure / Form	Monomer
Predicted Molecular Mass	15.2 kDa

SPECIFICATIONS

SDS-PAGE	14 kDa, reducing conditions
Activity	Measured in a cell proliferation assay using CTLL-2 mouse cytotoxic T cells. The ED ₅₀ for this effect is 0.015-0.075 ng/mL.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in Sodium Acetate. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in 100 mM acetic acid.
Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 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 15 kDa, O-glycosylated, four α-helix bundle cytokine that has potent stimulatory activity for antigen-activated T cells. It is expressed by CD4⁺ and CD8⁺ T cells, γδ T cells, B cells, dendritic cells, and eosinophils (1-3). Mature rabbit IL-2 shares 79%, 54%, and 63% aa sequence identity with human, mouse, and rat IL-2, respectively. Human and mouse IL-2 exhibit cross-species activity (4). The receptor for IL-2 consists of three subunits that are present on the cell surface in varying preformed complexes (5-7). The 55 kDa IL-2 Rα is specific for IL-2 and binds with low affinity. The 75 kDa IL-2 Rβ, which is also a component of the IL-15 receptor, binds IL-2 with intermediate affinity. The 64 kDa common gamma chain γc/IL-2 Rγ, which is shared with the receptors for IL-4, -7, -9, -15, and -21, does not independently interact with IL-2. Upon ligand binding, signal transduction is performed by both IL-2 Rβ and γc. IL-2 is best known for its autocrine and paracrine activity on T cells. It drives resting T cells to proliferate and induces IL-2 and IL-2 Rα synthesis (1, 2). It contributes to T cell homeostasis by promoting the Fas-induced death of naive CD4⁺ T cells but not activated CD4⁺ memory lymphocytes (8). IL-2 plays a central role in the expansion and maintenance of regulatory T cells, although it inhibits the development of Th17 polarized cells (9-11). Thus, IL-2 may be a key cytokine in the natural suppression of autoimmunity (12-14).

References:

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