

DESCRIPTION

Source	<i>E. coli</i> -derived human IL-2 protein Ala21-Thr153, with an N-terminal Met Accession # P60568
N-terminal Sequence Analysis	Met
Predicted Molecular Mass	15 kDa

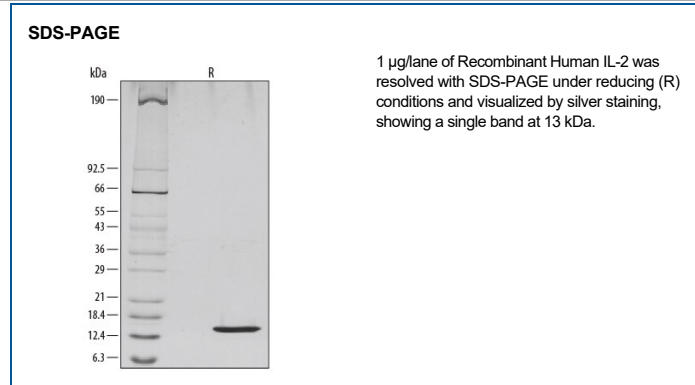
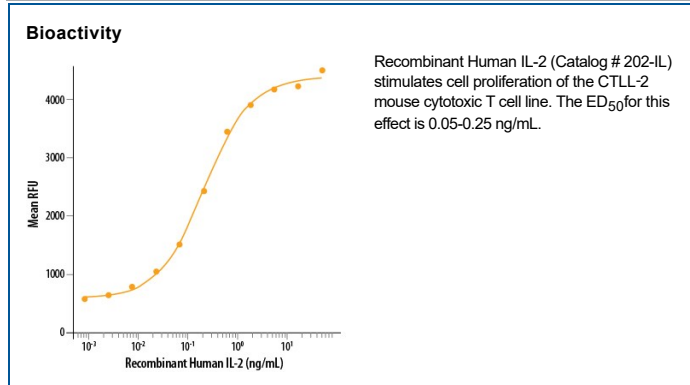
SPECIFICATIONS

SDS-PAGE	13 kDa, reducing conditions
Activity	Measured in a cell proliferation assay using CTLL-2 mouse cytotoxic T cells. Gearing, A.J.H. and C.B. Bird (1987) in <i>Lymphokines and Interferons, A Practical Approach</i> . Clemens, M.J. <i>et al.</i> (eds): IRL Press. 295. The ED ₅₀ for this effect is 0.05-0.25 ng/mL. The specific activity of Recombinant Human IL-2 is approximately 2.1 x 10 ⁴ IU/μg, which is calibrated against recombinant human IL-2 WHO International Standard (NIBSC code: 86/500).
Endotoxin Level	<0.10 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 Acetonitrile and TFA with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 μg/mL in sterile 100 mM Acetic Acid containing at least 0.1% human or bovine serum albumin. Alternatively, reconstitute at 100 μg/mL in sterile deionized water and use within 24 hours, store at 2 to 8 °C.
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. <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.

DATA



BACKGROUND

Interleukin-2 (IL-2) is a 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, $\gamma\delta$ T cells, B cells, dendritic cells, and eosinophils (1-3). Mature human IL-2 shares 56% and 66% aa sequence identity with 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 R α is specific for IL-2 and binds with low affinity. The 75 kDa IL-2 R β , which is also a component of the IL-15 receptor, binds IL-2 with intermediate affinity. The 64 kDa common gamma chain γ c/IL-2 R γ , 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 R β and γ c. 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 R α synthesis (1, 2). It contributes to T cell homeostasis by promoting the Fas-induced death of naïve 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, 13).

References:

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