

General Information

Synonyms	Human IL2; IL-2; IL-2; IL2; interleukin-2
Accession #	P60568
Source	Human embryonic kidney cell, HEK293-derived human IL2 protein
	Ala21-Thr153
Predicted Molecular weight	15.4 kDa

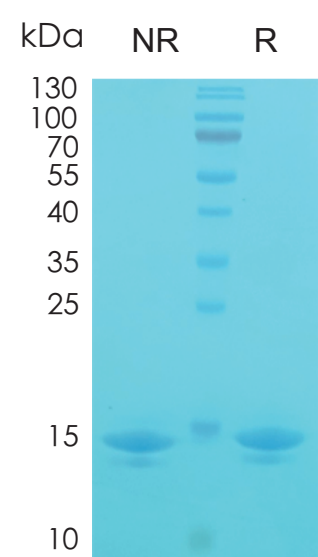
Components and Storage

Formulation	Solution protein.
	Dissolved in sterile PBS buffer to a concentration of 0.2 mg/mL.
	This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
Storage and Stability	Avoid repeated freeze-thaw cycles.
	It is recommended that the protein be aliquoted for optimal storage.
	12 months from date of receipt, -20 to -70 °C as supplied.
Shipping	Shipping with dry ice

Quality

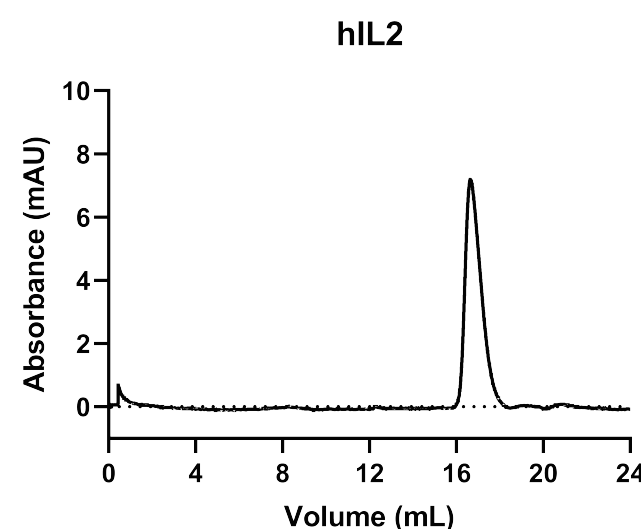
Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured in a cell proliferation assay using CTLL-2 mouse cytotoxic T cells.
	The ED50 for this effect is 0.05-0.25 ng/mL.

SDS-PAGE



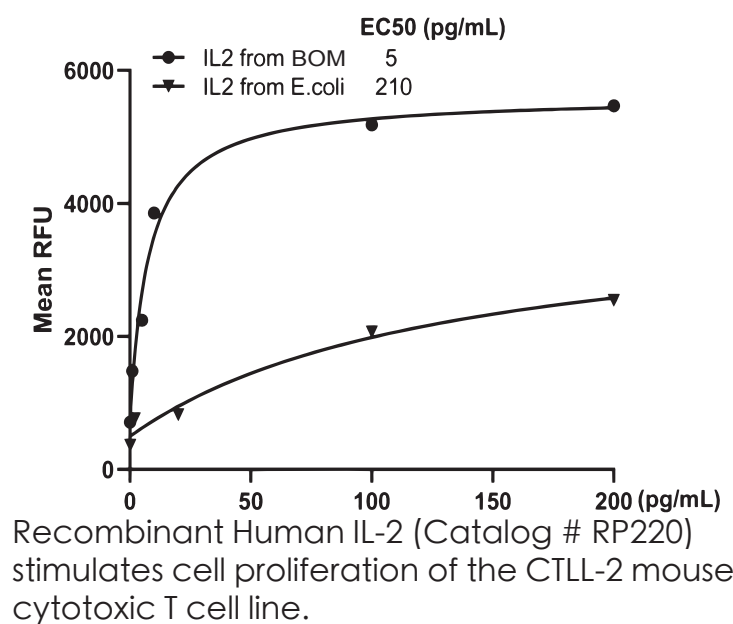
2 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



Size-exclusion chromatography of recombinant human IL2 protein (280 nm absorbance)

Bioactivity



Background

Interleukin-2 (IL-2) is a O-glycosylated, four alpha-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 alpha is specific for IL-2 and binds with low affinity. The 75 kDa IL-2 R beta, which is also a component of the IL-15 receptor, binds IL-2 with intermediate affinity. The 64 kDa common gamma chain gamma c/IL-2 R gamma, 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 beta and gamma 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 alpha 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, 13).

Reference

- Ma, A. et al. (2006) Annu. Rev. Immunol. 24:657.
- Gaffen, S.L. and K.D. Liu (2004) Cytokine 28:109.
- Taniguchi, T. et al. (1983) Nature 302:305.
- Mosmann, T.R. et al. (1987) J. Immunol. 138:1813.
- Liparoto, S.F. et al. (2002) Biochemistry 41:2543.
- Wang, X. et al. (2005) Science 310:1159.
- Bodnar, A. et al. (2008) Immunol. Lett. 116:117.
- Jaleco, S. et al. (2003) J. Immunol. 171:61.
- Malek, T.R. (2003) J. Leukoc. Biol. 74:961.
- Laurence, A. et al. (2007) Immunity 26:371.
- Kryczek, I. et al. (2007) J. Immunol. 178:6730.
- Afzali, B. et al. (2007) Clin. Exp. Immunol. 148:32.
- Fehervari, Z. et al. (2006) Trends Immunol. 27:109.

Contact us

