

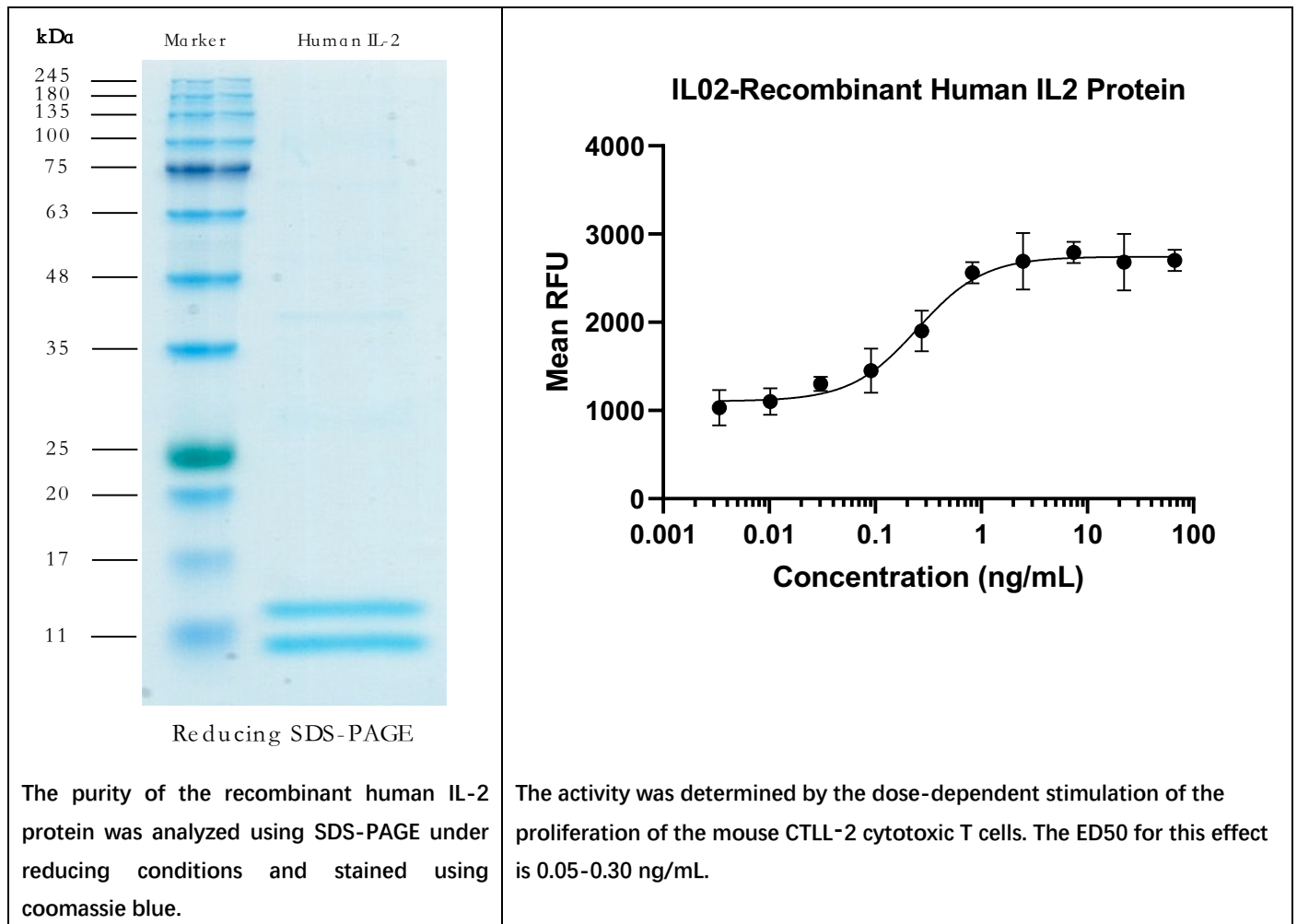
## Recombinant Human IL-2 Protein

Cat. No.: IL02-100                      Size: 100µg  
 Cat. No.: IL02-1000                    Size: 1mg (500µg\*2)

### Product Specifications

Source:	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td colspan="2" style="text-align: center;">Human IL-2 (Ala21-Thr153) Accession # P60568.1</td> </tr> <tr> <td style="text-align: center;">N-terminus</td> <td style="text-align: center;">C-terminus</td> </tr> </table> <p>Human HEK293 cell line, HEK293-derived human IL-2 protein.</p>	Human IL-2 (Ala21-Thr153) Accession # P60568.1		N-terminus	C-terminus
Human IL-2 (Ala21-Thr153) Accession # P60568.1					
N-terminus	C-terminus				
Accession:	<a href="#">P14210.2</a>				
Purity:	>90%, by SDS-PAGE under reducing conditions.				
Endotoxin Level:	<0.10 EU/µg of the protein by the LAL method.				
Activity:	The activity was determined by the dose-dependent stimulation of the proliferation of the mouse CTLL-2 cytotoxic T cells. The ED50 for this effect is 0.05-0.30 ng/mL.				
Structure:	Monomer				
Predicted Molecular Weight	15.5 kDa				
SDS-PAGE	11 kDa-16kDa, reducing conditions.				
Sterile:	0.22µm sterile filtration.				
Product Form:	Lyophilized powder.				
Shipping & Storage:	<p>The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below:</p> <ul style="list-style-type: none"> <li>➤ To the date of expiration, -20°C to -80°C as supplied.</li> <li>➤ 3 months, -20°C to -80°C under sterile conditions after reconstitution.</li> <li>➤ 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> </ul> <p><b>Avoid repeated freeze-thaw cycles.</b></p>				

## Scientific Data



## Product Background:

IL-2 is well-known for its autocrine and paracrine activity on T cells. It induces proliferation and IL-2 receptor synthesis in resting T cells. It plays a crucial role in T cell homeostasis, promoting the death of naïve CD4+ T cells while sparing activated CD4+ memory lymphocytes. IL-2 is involved in the expansion and maintenance of regulatory T cells and exhibits inhibitory effects on the development of Th17 polarized cells, making it a key cytokine in the regulation of autoimmunity.

Human IL-2 shares 56% and 66% amino acid sequence identity with mouse and rat IL-2, respectively, and exhibits cross-species activity. The IL-2 receptor consists of three subunits, including IL-2 R alpha, IL-2 R beta, and common gamma chain gamma c/IL-2 R gamma. Upon ligand binding, IL-2 signals through both IL-2 R beta and gamma c subunits.

IL-2 expression and concentration can have immunostimulatory effects at high doses or immunosuppressive effects at low doses based on its preferential binding to different receptor subunits expressed by immune cell types. This has led to the development of recombinant IL-2 variants aimed at modifying IL-2 receptor binding for enhanced antitumor efficacy. These variants are often used in combination with immune checkpoint inhibitors rather than as standalone therapies. IL-2 can be genetically engineered for expression in NK cells in CAR T cell therapies, and when combined with other cytokines such as IL-15, it can enhance cell viability and proliferation. Additionally, IL-2 has been combined with cancer vaccines and checkpoint blockade inhibitors to boost immune

responses, showing promising results in recent studies.

In cell culture, IL-2 is frequently used for the proliferation, differentiation, and increased antibody secretion of B cells, aiding their transformation into plasma cells in vitro. It is also a commonly used cytokine for expanding NK cells, early differentiated T cells, and effector memory Treg cells in adoptive cell transfer cancer immunotherapy.

## References:

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## RUO Statement:

*Recombinant Human IL-2 Protein for Research Use Only. It is not intended for diagnostic, therapeutic, or any other clinical applications.*

K2 Oncology Co. Ltd.

Tel: 010-56538985

E-mail: [info@k2oncology.com](mailto:info@k2oncology.com)

Address: Room 4-101, Build 3, Zone 3, JiuCheng Tech Park, No88 5th Jinghai Rd. BDA, Beijing, China