

Human IL-2 ELISA Kit, Fluorescent ab229441

CatchPoint® SimpleStep ELISA®

3 Images

Overview

Product name	Human IL-2 ELISA Kit, Fluorescent				
Detection method	Fluorescent				
Precision	Inter-assay				
	Sample	n	Mean	SD	CV%
	IL-2 protein	24			6%
Sample type	Cell culture supernatant, Serum, Hep Plasma, EDTA Plasma, Cit plasma				
Assay type	Sandwich (quantitative)				
Sensitivity	3.7 pg/ml				
Range	19.53 pg/ml - 5000 pg/ml				
Recovery	Sample specific recovery				
	Sample type	Average %		Range	
	Serum	95		93% - 97%	
	Hep Plasma	91		82% - 95%	
	EDTA Plasma	100		95% - 105%	
	Cit plasma	83		77% - 98%	
Assay time	1h 30m				
Assay duration	One step assay				
Species reactivity	Reacts with: Human				
Product overview	IL-2 (Interleukin-2) <i>in vitro</i> CatchPoint SimpleStep ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of IL-2 (Interleukin-2) protein in human cell culture supernatant, plasma and serum samples.				

This CatchPoint SimpleStep ELISA kit has been **optimized for Molecular Devices Microplate**

Readers. Click [here](#) for a list of recommended Microplate Readers.

If using a Molecular Devices' plate reader supported by SoftMax® Pro software, a preconfigured protocol for these CatchPoint SimpleStep ELISA Kits is available with all the protocol and analysis settings at www.softmaxpro.org.

The CatchPoint SimpleStep ELISA employs an affinity tag labeled capture antibody and a reporter conjugated detector antibody which immunocapture the sample analyte in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. CatchPoint HRP Development Solution containing the Stoplight Red Substrate is added. During incubation, the substrate is catalyzed by HRP generating a fluorescent product. Signal is generated proportionally to the amount of bound analyte and the intensity is measured in a fluorescence plate reader at 530/570/590 nm Excitation/Cutoff/Emission.

Notes

IL-2, also known as T cell growth factor (TCGF), is a glycosylated alpha-helical polypeptide, synthesized as a 153 amino acid (aa) precursor with a 20 aa signal peptide and a 133 aa mature chain. It is secreted by activated CD4⁺ and CD8⁺ T cells, neurons, microglia and hematopoietic stem cells in response to antigenic or mitogenic stimulation. IL-2 is required for T-cell proliferation, Natural Killer cells (NK) cytolytic activity, differentiation of regulatory T cells, modulation of T helper (Th) cell differentiation and activation-induced cell death. In particular, IL-2 modulates the expression of receptors for other cytokines and transcription factors, therefore regulating cytokine cascades that correlate with each of the Th differentiation states.

Complete deficiency of IL-2 has been implicated in severe combined immunodeficiency, whereas reduction of the IL-2 correlates with reduced function of CD4⁺CD25⁺ regulatory T cells and destabilization of immune homeostasis leading to autoimmune disease. Increased expression of IL-2 has also been implicated in inflammatory conditions such as inflammatory bowel disease and chronic liver diseases. IL-2 therefore is both an immune stimulator and immune suppressor cytokine which efficiently controls the immune system to deal with autoimmunity and adaptive immune response.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

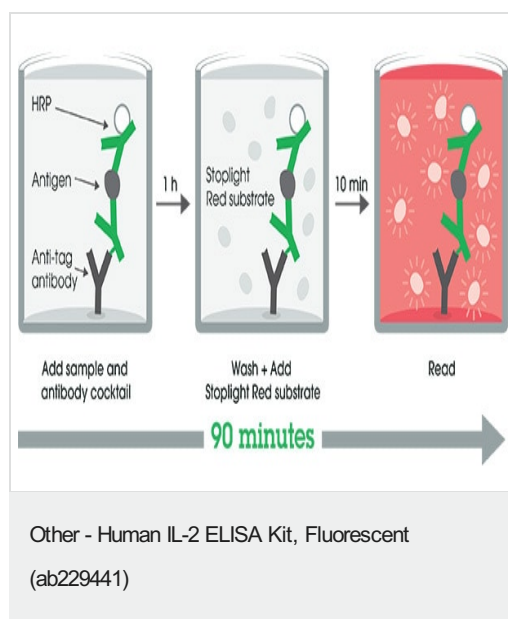
Storage instructions Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
100X Stoplight Red Substrate	1 x 120µl
10X Human IL-2 Capture Antibody	1 x 600µl
10X Human IL-2 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
500X Hydrogen Peroxide (H2O2, 3%)	1 x 50µl
Antibody Diluent 4BI	1 x 6ml

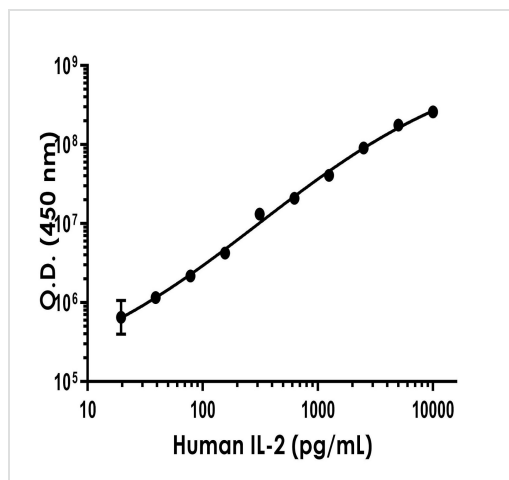
Components	1 x 96 tests
Human IL-2 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent 25BS	1 x 20ml
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated Black 96-Well Microplate	1 unit
Stoplight Red Substrate Buffer	1 x 12ml

Function	Produced by T-cells in response to antigenic or mitogenic stimulation, this protein is required for T-cell proliferation and other activities crucial to regulation of the immune response. Can stimulate B-cells, monocytes, lymphokine-activated killer cells, natural killer cells, and glioma cells.
Involvement in disease	Note=A chromosomal aberration involving IL2 is found in a form of T-cell acute lymphoblastic leukemia (T-ALL). Translocation t(4;16)(q26;p13) with involves TNFRSF17.
Sequence similarities	Belongs to the IL-2 family.
Cellular localization	Secreted.

Images

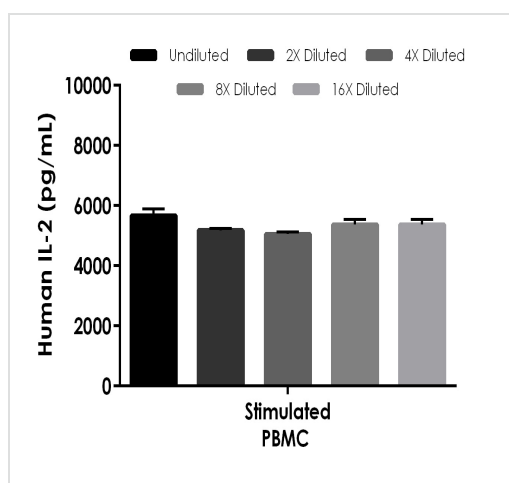


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



Example of human IL-2 standard curve. Background-subtracted data values (mean \pm SD) are graphed.

Example of human IL-2 standard curve in Sample Diluent NS.



Interpolated concentration of native IL-2 was measured in duplicate at different sample concentrations. Undiluted samples are 25% PBMCs stimulated with 1.5% PHAM for 48 hours. The interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). Sample dilutions are made in Sample Diluent NS.

Interpolated concentrations of human IL-2 in stimulated PBMC supernatants.

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