

Product datasheet

Human IL-2 ELISA Kit ab174444

SimpleStep ELISA[®]

[5 References](#) [4 Images](#)

Overview

Product name Human IL-2 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Overall	6			6%

Inter-assay

Sample	n	Mean	SD	CV%
Overall	24			6%

Sample type Cell culture supernatant, Serum, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 9 pg/ml

Range 15.63 pg/ml - 2000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	95	93% - 97%
Cell culture media	94	83% - 109%
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**

Human IL-2 SimpleStep ELISA® kit is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of IL-2 protein in human cell culture supernatant, plasma and serum samples. Quantitate human IL-2 with 9 pg/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate ([ab203359](#)) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

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 a immune stimulator and immune suppressor cytokine which efficiently controls the immune system to deal with autoimmunity and adaptive immune response.

Platform

Microplate

Properties**Storage instructions**

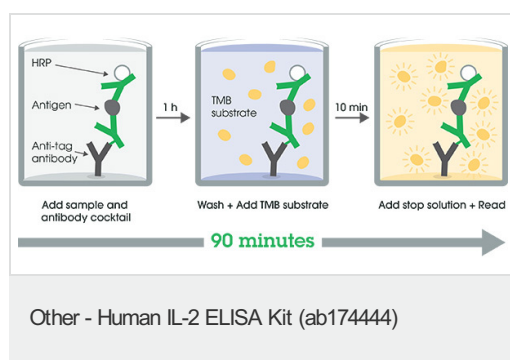
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
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

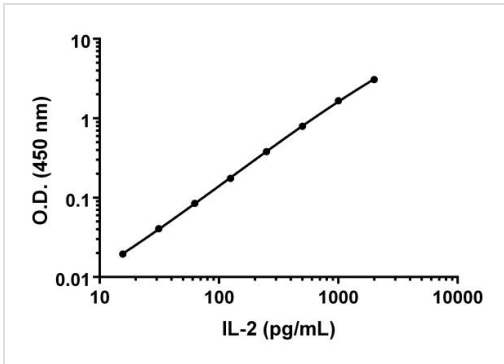
Components	1 x 96 tests
Antibody Diluent 4BI	1 x 6ml
Human IL-2 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent 25BS	1 x 20ml
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 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

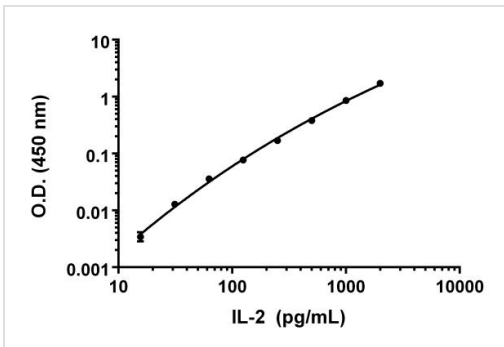


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



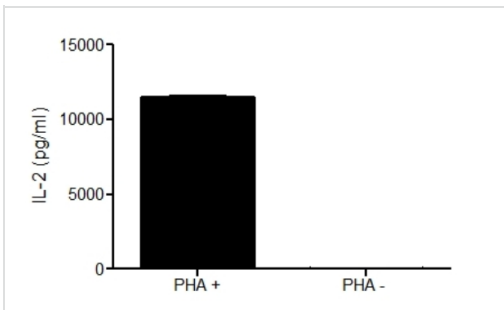
Example IL-2 standard curve in sample diluents NS.

Example IL-2 standard curve in sample diluents NS.



Background-subtracted data values (mean +/- SD) are graphed.

Example IL-2 standard curve in standard diluent 25BS.



Human PBMCs were cultured in RPMI supplemented with 10% fetal calf serum, 2mM L-glutamine, 100U/mL penicillin, and 100 µg/mL streptomycin. Cells were cultured for 2 days at 37°C in the presence or absence of PHA. The concentrations of IL-2 were interpolated from the calibration curve and corrected for sample dilution. The mean IL-2 concentration was determined to be 16 pg/mL in unstimulated PBMC supernatants and 11,460 pg/mL in stimulated PBMC supernatants.

Specificity of IL-2 signal on stimulated and non stimulated media supernatants.

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