abcam

Product datasheet

Human IL-2 ELISA Kit ab174444

SimpleStep ELISA

9 References　画像数 7

製品の概要

製品名 Human IL-2 ELISA Kit

検出方法 Colorimetric

再現性

Intra-Assay（同時再現性）

サンプル	N	平均値	SD	CV%
Overall	6			6%

Inter-Assay（日差再現性）

サンプル	N	平均値	SD	CV%
Overall	24			6%

サンプルの種類 Cell culture supernatant, Serum, Hep Plasma, EDTA Plasma, Cit plasma

アッセイタイプ Sandwich (quantitative)

検出感度 9 pg/ml

検出範囲 15.63 pg/ml - 2000 pg/ml

添加回収試験

特定サンプルでの回収試験

サンプルの種類	平均 %	測定範囲
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%

全工程の試験時間 1h 30m

ステップ One step assay

種交差性

交差種: Human

製品の概要

Human IL-2 ELISA kit has been re-developed. We have identified new recombinant monoclonal antibodies to provide improved performance and consistency. This version will be discontinued when inventory is depleted. The new version is available as ab270883.

Human IL-2 ELISA kit (ab174444) 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. It uses our proprietary SimpleStep ELISA® technology. 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 SimpeStep ELISA® kits.

ASSAY SPECIFICITY

This kit recognizes both native and recombinant Human IL-2 protein in serum, plasma, and cell culture supernatant samples only.

Extract samples have not been tested with this kit.

SPECIES REACTIVITY

This kit recognizes Human IL-2 protein.

No cross reaction observed with recombinant mouse IL-2 tested at 10 ng/mL.

Other species reactivity not determined.

特記事項

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.

試験プラットフォーム Microplate

製品の特性

保存方法 Store at +4°C. Please refer to protocols.

Components	
Plate Seals	1 x unit
10X Wash Buffer PT (**ab206977**)	1 x 20ml
TMB Development Solution	1 x 12ml
Stop Solution	1 x 12ml
SimpleStep Pre-Coated 96-Well Microplate (**ab206978**)	1 x unit
10X Human IL-2 Detector Antibody	1 x 600µl
Human IL-2 Lyophilized Recombinant Protein	2 x 1vial
10X Human IL-2 Capture Antibody	1 x 600µl
Sample Diluent NS (**ab193972**)	1 x 50ml
Sample Diluent 25BS	1 x 20ml
Antibody Diluent 4BI	1 x 6ml

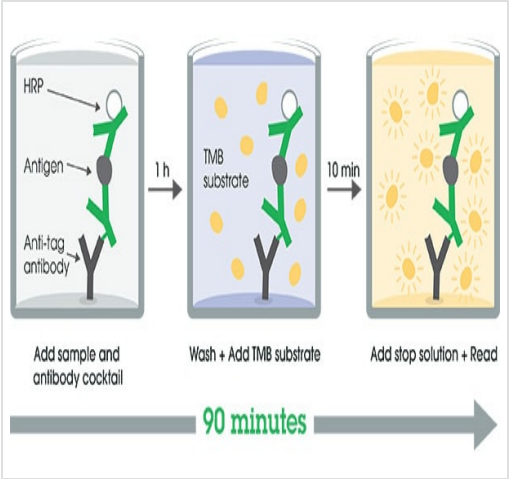
機能 Produced by T-cells in response to antigenic or mitogenic stimulation, this protein is required for T-cell proliferation and other activities crucial to regulation of the immune response. Can stimulate B-cells, monocytes, lymphokine-activated killer cells, natural killer cells, and glioma cells.

関連疾患 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.

配列類似性 Belongs to the IL-2 family.

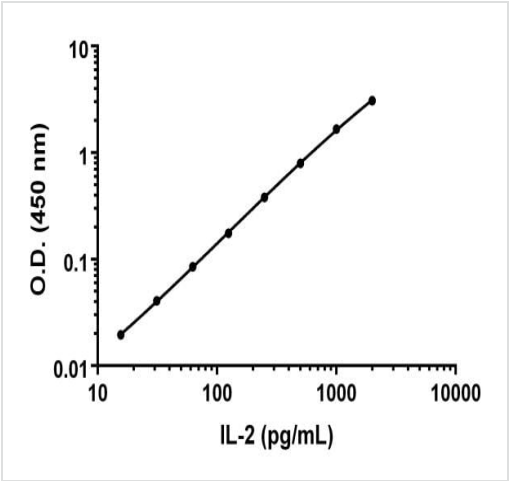
細胞内局在 Secreted.

画像



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.

Other - Human IL-2 ELISA Kit (ab174444)



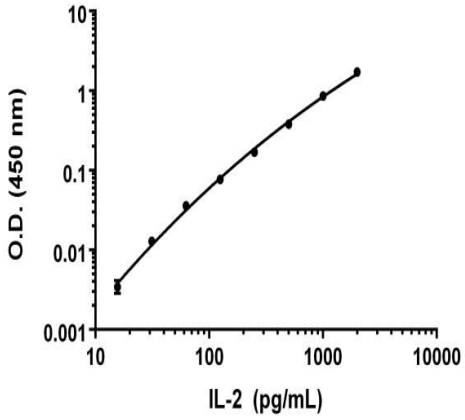
Example IL-2 standard curve in sample diluents NS.

Example IL-2 standard curve in sample diluents NS.

Standard Curve Measurements			
Conc. (pg/mL)	O.D. 450 nm		Mean O.D.
	1	2	
0	0.061	0.059	0.0602
15.63	0.088	0.087	0.088
31.3	0.112	0.106	0.109
62.5	0.164	0.162	0.163
125	0.285	0.246	0.265
250	0.556	0.482	0.519
500	1.081	0.908	0.995
1,000	1.938	2.014	1.976
2,000	3.559	3.548	3.553

The IL-2 standard curve was prepared as described. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.

Example IL-2 standard curve in Sample Diluents NS.



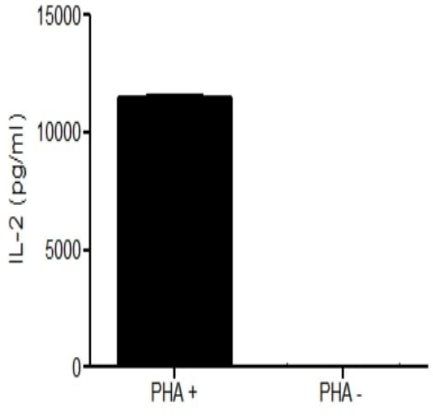
Example IL-2 standard curve in standard diluent 25BS.

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

Standard Curve Measurements			
Conc. (pg/mL)	O.D. 450 nm		Mean O.D.
	1	2	
0	0.058	0.057	0.058
15.63	0.061	0.061	0.061
31.3	0.069	0.072	0.070
62.5	0.093	0.094	0.093
125	0.136	0.133	0.134
250	0.232	0.222	0.227
500	0.439	0.433	0.436
1,000	0.912	0.914	0.913
2,000	1.720	1.811	1.765

Example IL-2 standard curve in Sample Diluent 25BS.

The curve was prepared by loading standard curve as described. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



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

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 37IC 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.

	Interpolated value	NHS 50%	NHP Citrate 50%	NHP EDTA 50%	NHP Heparin 50%	Media 10%
1:1	pg/mL	2,065	1,893	1,959	1,802	2,214
	% Expected value	100	100	100	100	100
1:2	pg/mL	1,010	964	964	920	1,061
	% Expected value	102	102	98	102	105
1:4	pg/mL	543	532	543	510	498
	% Expected value	112	113	111	113	98
1:8	pg/mL	293	293	305	281	243
	% Expected value	124	125	125	124	94

Linearity of dilution.

Linearity of dilution is determined based on interpolated values from the standard curve. Linearity of dilution defines a sample concentration interval in which interpolated target concentrations are directly proportional to sample dilution.

Recombinant Human IL-2 was spiked into the following biological samples and diluted in a 2-fold dilution series in Sample Diluent NS.

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