

## Product datasheet

### Human IL-8 ELISA Kit ab214030

**KO VALIDATED** Recombinant SimpleStep ELISA

★★★★★ [1 Abreviews](#) [22 References](#) [13 Images](#)

#### Overview

**Product name** Human IL-8 ELISA Kit

**Detection method** Colorimetric

#### Precision

Intra-assay

Sample	n	Mean	SD	CV%
Overall	5			1.8%

Inter-assay

Sample	n	Mean	SD	CV%
Overall	3			7.5%

**Sample type** Cell culture supernatant, Serum, Hep Plasma, EDTA Plasma, Cit plasma, Cerebral Spinal Fluid

**Assay type** Sandwich (quantitative)

**Sensitivity** 1.8 pg/ml

**Range** 3.91 pg/ml - 250 pg/ml

#### Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	99	93% - 103%
Cell culture media	101	98% - 104%
Hep Plasma	87	82% - 91%
EDTA Plasma	88	84% - 92%
Cit plasma	86	83% - 90%
Cerebral Spinal Fluid	89	84% - 94%

<b>Assay time</b>	1h 30m
<b>Assay duration</b>	One step assay
<b>Species reactivity</b>	<b>Reacts with:</b> Human <b>Does not react with:</b> Cow
<b>Product overview</b>	Human IL-8 ELISA Kit (ab214030) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of IL-8 protein in cit plasma, edta plasma, hep plasma, serum, and cell culture supernatant. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human IL-8 with 1.8 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.

### ASSAY SPECIFICITY

This kit recognizes both native and recombinant human IL-8 protein in serum, plasma, and cell culture supernatant samples only.

Cell and tissue extract samples have not been tested with this kit.

### SPECIES REACTIVITY

This kit recognizes human IL-8 protein.

Other species reactivity was determined by measuring 100% mouse, rat, and bovine serum samples, interpolating the IL-8 protein concentrations from the human standard curve, and expressing the interpolated concentrations as a percentage of the IL-8 protein concentration in human serum assayed at the same dilution.

Reactivity < 3% was determined for the following species: Mouse, Rat, Cow

### CALIBRATION

This immunoassay is calibrated against a highly purified human IL-8. The NIBSC/WHO unclassified purified human IL-8 preparation 89/520 was evaluated in this kit.

The dose response curve of the unclassified standard IL-8 parallels the SimpleStep standard curve. To convert sample values obtained with the SimpleStep Human IL-8 kit to approximate NIBSC IU/mL units, use the equation below.

NIBSC (89/250) approximate value (IU/mL) = 0.0042 x SimpleStep Human IL-8 value (pg/mL).

**Notes** IL-8 is a chemotactic factor that attracts neutrophils, basophils, and T cells, but not monocytes. It is also involved in neutrophil activation. It is released from several cell types in response to an inflammatory stimulus. IL-8(6-77) has a 5-10-fold higher activity on neutrophil activation, IL-8(5-77) has increased activity on neutrophil activation and IL-8(7-77) has a higher affinity to receptors CXCR1 and CXCR2 as compared to IL-8(1-77), respectively.

**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	10 x 96 tests	1 x 384 tests
10X Human IL-8 Capture Antibody	1 x 600µl	1 x 6000µl	1 x 600µl
10X Human IL-8 Detector Antibody	1 x 600µl	1 x 6000µl	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 200ml	1 x 20ml
384 well CaptSure™ microplates	0 x 0 unit	0 x 0 unit	1 unit
Antibody Diluent 4BI	1 x 6ml	10 x 6ml	1 x 6ml
Human IL-8 Lyophilized Recombinant Protein	2 vials	2 x 10 vials	2 vials
Plate Seals	1 unit	1 x 10 units	1 unit
Sample Diluent NS (ab193972)	1 x 50ml	2 x 250ml	2 x 250ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	1 x 10 units	0 x 0 unit
Stop Solution	1 x 12ml	1 x 120ml	2 x 12ml
TMB Development Solution	1 x 12ml	1 x 120ml	2 x 12ml

**Function** IL-8 is a chemotactic factor that attracts neutrophils, basophils, and T-cells, but not monocytes. It is also involved in neutrophil activation. It is released from several cell types in response to an inflammatory stimulus. IL-8(6-77) has a 5-10-fold higher activity on neutrophil activation, IL-8(5-77) has increased activity on neutrophil activation and IL-8(7-77) has a higher affinity to receptors CXCR1 and CXCR2 as compared to IL-8(1-77), respectively.

**Sequence similarities** Belongs to the intercrine alpha (chemokine CxC) family.

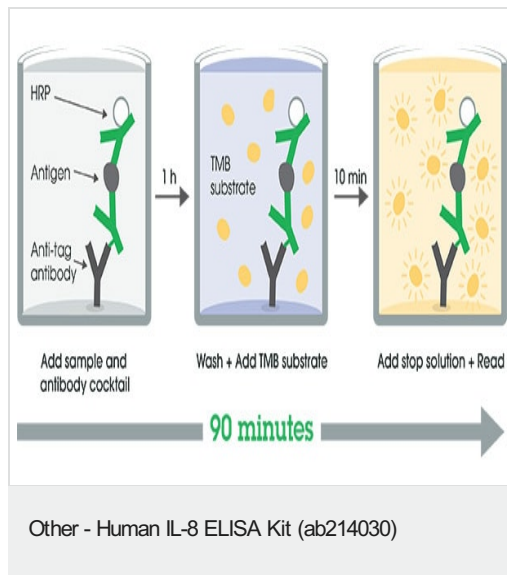
**Post-translational modifications** Several N-terminal processed forms are produced by proteolytic cleavage after secretion from at least peripheral blood monocytes, leukocytes and endothelial cells. In general, IL-8(1-77) is

referred to as interleukin-8. IL-8(6-77) is the most prominent form.

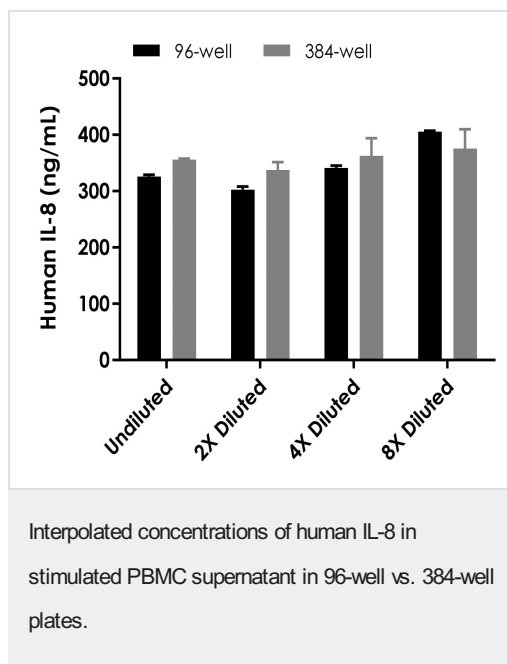
## Cellular localization

Secreted.

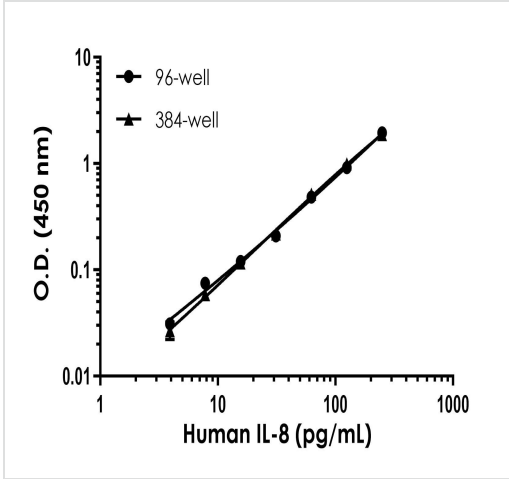
## Images



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.

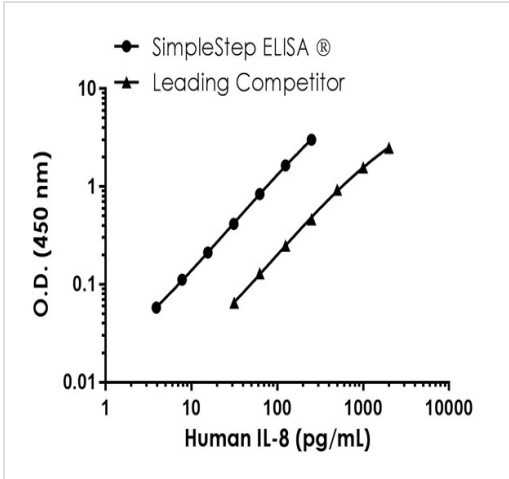


Interpolated concentration of native IL-8 was measured in duplicate at different sample concentrations in 96-well vs. 384-well plates. Undiluted samples are 0.25% stimulated PBMC supernatant. The interpolated dilution factor corrected values (to neat) are plotted (mean +/- SD, n=2). Sample dilutions are made in Sample Diluent NS.



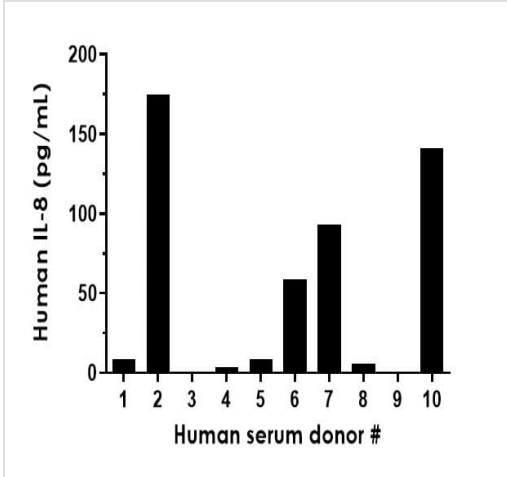
Example of human IL-8 standard curve in 96-well vs. 384-well plate. Background-subtracted data values (mean +/- SD) are graphed.

Example of human IL-8 standard curve in Sample Diluent NS in 96-well vs. 384-well plate.



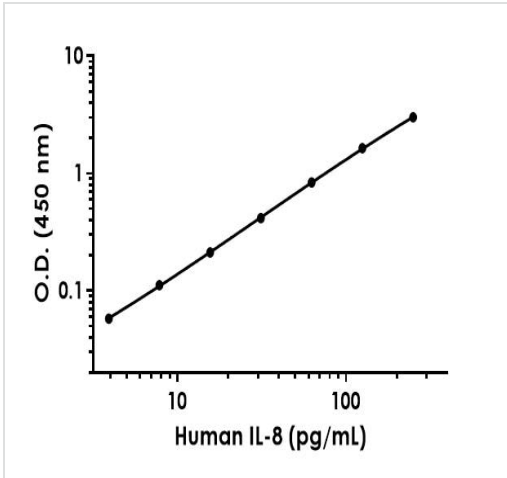
Standard curve comparison between human IL-8 SimpleStep ELISA kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows a 3-fold increase in sensitivity.

Human IL-8 standard curve comparison data.



Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean IL-8 concentration was determined to be 61.6 pg/mL with a range of 62 – 174.9 pg/mL; two individuals (Donor #3 and Donor #9) measured below the minimal detectable dose.

Serum from ten individual healthy human female donors was measured in duplicate.



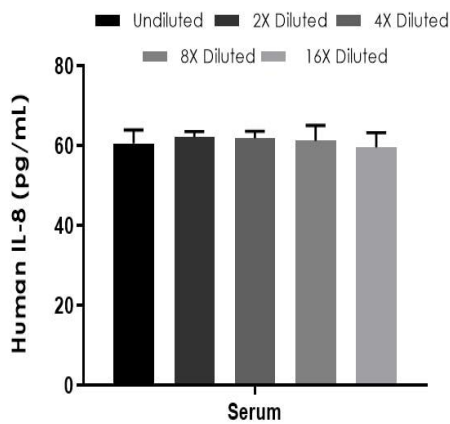
Background-subtracted data values (mean +/- SD) are graphed.

Example of human IL-8 standard curve.

Standard Curve Measurements			
Concentration (pg/mL)	O.D 450 nm		Mean O.D
	1	2	
0	0.135	0.132	0.134
3.91	0.190	0.194	0.192
7.81	0.242	0.250	0.246
15.63	0.347	0.346	0.346
31.25	0.547	0.552	0.549
62.50	0.957	0.992	0.975
125	1.748	1.801	1.775
250	3.171	3.119	3.145

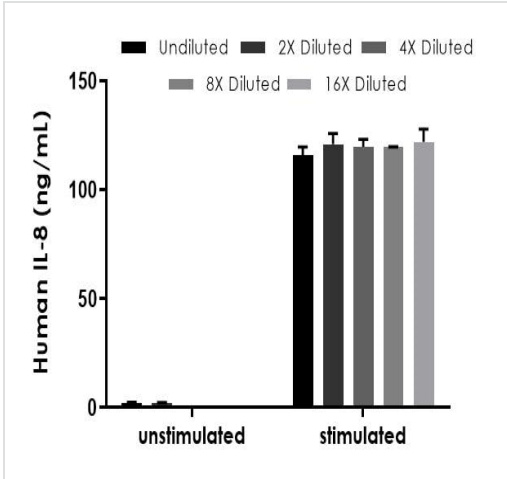
Example of human IL-8 standard curve in Sample Diluent NS.

The IL-8 standard curve was prepared as described. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



Interpolated concentrations of native IL-8 in human serum.

The concentrations of IL-8 were measured in duplicates, interpolated from the IL-8 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean IL-8 concentration was determined to be 63.2 pg/mL in serum.



Interpolated concentrations of native IL-8 in human PBMC cell culture supernatant.

The concentrations of IL-8 were measured in duplicates, interpolated from the IL-8 standard curves and corrected for sample dilution. Undiluted samples are as follows: unstimulated 1:400 and stimulated 1:400. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). Measured values were interpolated from the IL-8 Standard Curve diluted in Sample Diluent NS and corrected for dilution factor. Mean of duplicate values +/-SD are graphed. The mean IL-8 concentration was determined to be 2.2 ng/mL in unstimulated, 119.7ng/mL in stimulated, and undetectable in media.

Dilution Factor	Interpolated value	50% Human Serum	1: 400 PBMC Supernatant
Undiluted	pg/mL	30	290
	% Expected value	100	100
2	pg/mL	16	151
	% Expected value	102	105
4	pg/mL	8	75
	% Expected value	102	103
8	pg/mL	4	37
	% Expected value	101	103
16	pg/mL	2	19
	% Expected value	98	105

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.

Native IL-8 was measured in the following biological samples in a 2-fold dilution series. Sample dilutions are made in Sample Diluent NS.

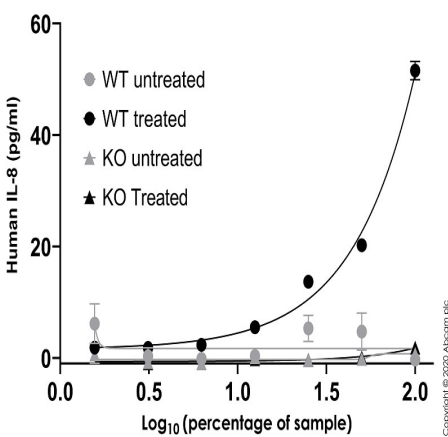


Dilution Factor	Interpolated value	50% Human Plasma (Citrate)	50% Human Plasma (Heparin)	50% Human Plasma (EDTA)
Undiluted	pg/mL	156	152	161
	% Expected value	100	100	100
2	pg/mL	81	78	83
	% Expected value	104	103	103
4	pg/mL	42	41	43
	% Expected value	108	109	105
8	pg/mL	21	21	20
	% Expected value	109	109	100
16	pg/mL	11	11	10
	% Expected value	112	112	103

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 IL-8 was spiked into the following biological samples and diluted in a 2-fold dilution series in Sample Diluent NS.



Sandwich ELISA - Human IL-8 ELISA Kit (ab214030)

Human IL-8 concentration was interpolated from the standard curve. Supernatants from cell culture samples were serially diluted and assessed by the Human IL-8 ELISA kit (ab214030). Wild-type PC-3 cells and CXCL8 knockout PC-3 cells ([ab273743](#)) were assessed in duplicate (n=2) and were either treated with 2 µg/ml LPS for 6 hours to induce expression of IL-8 or not treated with LPS. Data are represented as the mean and error bars represent standard deviation.

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Sandwich ELISA - Human IL-8 ELISA Kit (ab214030)

To learn more about the advantages of recombinant antibodies see [here](#).

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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