

## Product datasheet

# Human IL-12/IL-23 p40 ELISA Kit ab220656

Recombinant SimpleStep ELISA

[7 Images](#)

### Overview

**Product name** Human IL-12/IL-23 p40 ELISA Kit

**Detection method** Colorimetric

**Precision**

Intra-assay

Sample	n	Mean	SD	CV%
Supernatant	5			3.6%

Inter-assay

Sample	n	Mean	SD	CV%
Supernatant	3			2.3%

**Sample type** Serum, Cell culture media, Hep Plasma, EDTA Plasma, Cit plasma

**Assay type** Sandwich (quantitative)

**Sensitivity** 5.8 pg/ml

**Range** 31.3 pg/ml - 2000 pg/ml

**Recovery**

Sample specific recovery

Sample type	Average %	Range
Serum	101	95% - 105%
Cell culture media	109	101% - 115%
Hep Plasma	107	101% - 113%
EDTA Plasma	101	96% - 105%
Cit plasma	101	99% - 103%

**Assay time** 1h 30m

**Assay duration** One step assay

**Species reactivity** **Reacts with:** Human

**Product overview** Human IL-12/IL-23 p40 ELISA Kit (ab220656) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of IL-12/IL-23 p40 protein in cell culture media, cit plasma, edta plasma, hep plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human IL-12/IL-23 p40 with 5.8 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.

**Notes** IL-12/IL-23P40 is a 40kDa cytokine that exists in its monomeric form as well as heterodimerizes with a 35kDa subunit to form IL-12/IL-12p70 and heterodimerizes with a 19kDa subunit to form IL-23. IL-12/IL-23P40 can act as a growth factor for activated T and natural killer cells as well as stimulate the production of Interferon gamma. IL-12/IL-23P40 is expressed by activated macrophages that induces Th1 cell development. This assay recognizes IL-12/IL-23P40 monomer, as well as the heterodimerized forms.

**Platform** Microplate (12 x 8 well strips)

## Properties

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

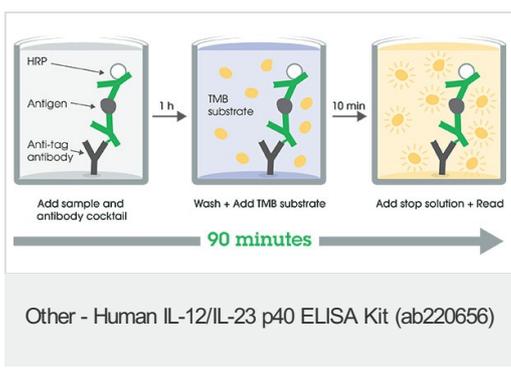
Components	1 x 96 tests
10X Human IL-12B/IL-23 p40 Capture Antibody	1 x 600µl
10X Human IL-12B/IL-23p40 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent CPI - HAMA Blocker (ab193969)	1 x 6ml
Human IL-12B/IL-23p40 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml

Components	1 x 96 tests
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

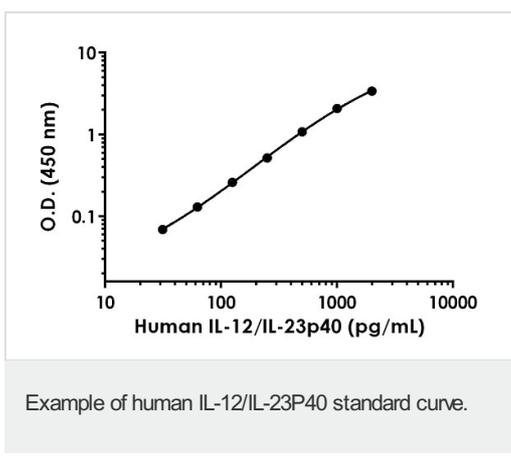
**Relevance**

Cytokine that can act as a growth factor for activated T and NK cells, enhance the lytic activity of NK/lymphokine-activated killer cells, and stimulate the production of IFN-gamma by resting PBMC. Associates with IL23A to form the IL-23 interleukin, an heterodimeric cytokine which functions in innate and adaptive immunity. IL-23 may constitute with IL-17 an acute response to infection in peripheral tissues. IL-23 binds to an heterodimeric receptor complex composed of IL12RB1 and IL23R, activates the Jak-Stat signaling cascade, stimulates memory rather than naive T-cells and promotes production of proinflammatory cytokines. IL-23 induces autoimmune inflammation and thus may be responsible for autoimmune inflammatory diseases and may be important for tumorigenesis.

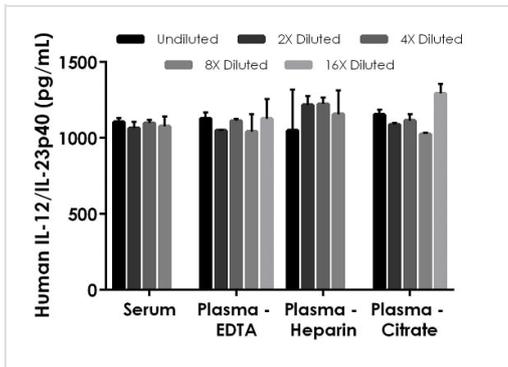
**Images**



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.

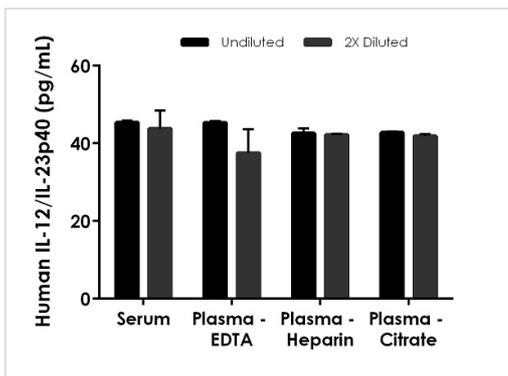


Background-subtracted data values (mean +/- SD) are graphed.



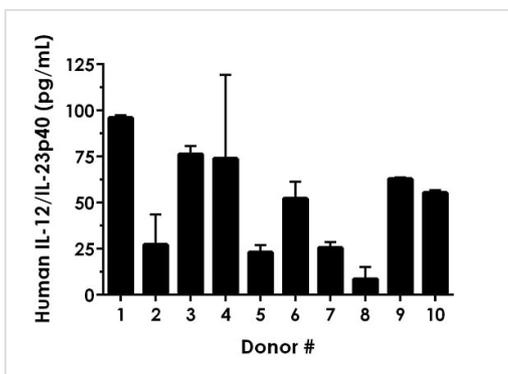
Interpolated concentrations of spiked IL-12/IL-23P40 in human serum and plasma samples.

The concentration of IL-12/IL-23P40 was measured in duplicate, interpolated from the IL-12/IL-23P40 standard curve and corrected for sample dilution. Undiluted samples are as follows: serum 50%, plasma (EDTA) 50%, plasma (heparin) 50% and plasma (citrate) 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).



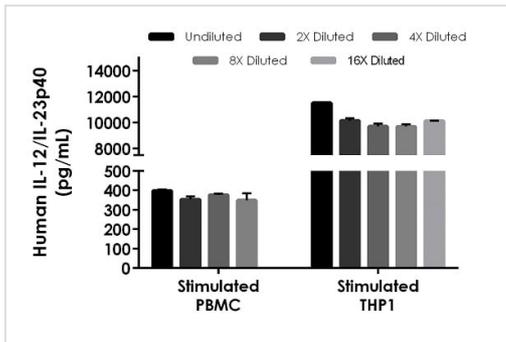
Interpolated concentrations of native IL-12/IL-23P40 in human serum and plasma samples.

The concentrations of IL-12/IL-23P40 were measured in duplicate, interpolated from the IL-12/IL-23P40 standard curve and corrected for sample dilution. Undiluted samples are as follows: serum 50%, plasma (EDTA) 50%, plasma (heparin) 50% and plasma (citrate) 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean IL-12/IL-23P40 concentration was determined to be 45 pg/mL in serum, 41 pg/mL in plasma (EDTA), 42 pg/mL in plasma (heparin) and 42 pg/mL in plasma (citrate).



Interpolated concentrations of native IL-12/IL-23P40 in human serum samples.

Serum from ten individual healthy human female donors was measured in duplicate. Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean IL-12/IL-23P40 concentration was determined to be 92 pg/mL with a range of 17 – 100 pg/mL.



Interpolated concentrations of native IL-12/IL-23P40 in human PMBC and THP1 stimulated cell culture supernatant samples.

The concentrations of IL-12/IL-23P40 was measured in duplicate, interpolated from the IL-12/IL-23P40 standard curve and corrected for sample dilution. Undiluted samples are as follows: Stimulated PBMC cell culture supernatant (50%) and Stimulated THP1 cell culture supernatant (12.5%). The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean IL-12/IL-23P40 concentration was determined to be 369 pg/mL in Stimulated PBMC Cell culture supernatant and 10,253 pg/mL in THP1 cell culture supernatant. IL-12/IL-23P40 was undetectable in media or unstimulated supernatant samples.

Powered by  
recombinant antibodies



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Sandwich ELISA - Human IL-12/IL-23 p40 ELISA Kit  
(ab220656)

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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