

Product datasheet

Human Leptin ELISA Kit ab179884

SimpleStep ELISA

[2 References](#) [6 Images](#)

Overview

Product name Human Leptin ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			5.1%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			3.5%

Sample type

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

Assay type

Sandwich (quantitative)

Sensitivity

4.65 pg/ml

Range

15.63 pg/ml - 1000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	91	90% - 93%
Cell culture media	102	101% - 104%
Hep Plasma	98	88% - 105%
EDTA Plasma	82	80% - 87%
Cit plasma	113	107% - 123%

Assay time

1h 30m

Assay duration	One step assay
Species reactivity	Reacts with: Human
Product overview	As of January 16, 2020, Human Leptin ELISA kit (ab179884) has been re-developed. We have identified new recombinant monoclonal antibodies to provide improved performance and consistency.

Human Leptin ELISA kit (ab179884) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Leptin protein in human serum, plasma and cell culture supernatants. It uses our proprietary SimpleStep ELISA® technology. Quantitate human Leptin with 4.65 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 Leptin is a secreted protein factor produced by adipocytes. It regulates energy balance and body fat deposits. Leptin deficiency in humans and mice can cause in obesity. Acute low levels of leptin triggers increased appetite and chronic leptin deficiency can block the onset of puberty.

Platform Microplate

Properties

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

Components	1 x 96 tests
10X Human Leptin Capture Antibody	1 x 600µl
10X Human Leptin Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 4BI	1 x 6ml
Human Leptin 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

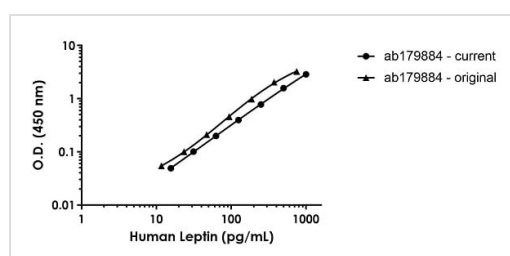
Function May function as part of a signaling pathway that acts to regulate the size of the body fat depot. An increase in the level of LEP may act directly or indirectly on the CNS to inhibit food intake and/or regulate energy expenditure as part of a homeostatic mechanism to maintain constancy of the adipose mass.

Involvement in disease Defects in LEP may be a cause of obesity (OBESITY) [MIM:601665]. It is a condition characterized by an increase of body weight beyond the limitation of skeletal and physical requirements, as the result of excessive accumulation of body fat.

Sequence similarities Belongs to the leptin family.

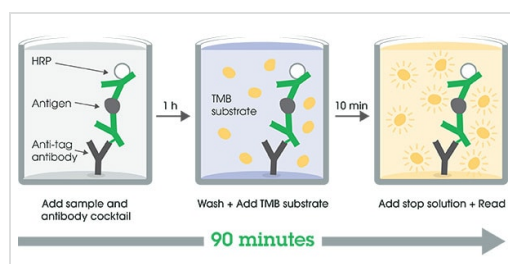
Cellular localization Secreted.

Images



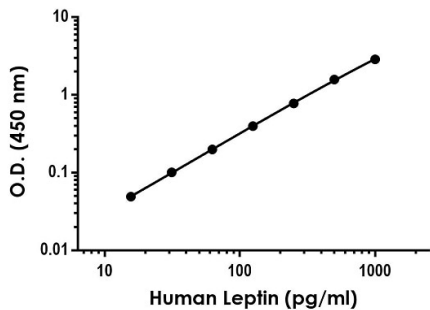
Human Leptin redevelopment standard curve comparison

Standard Curve comparison between original human Leptin SimpleStep ELISA kit and redeveloped Simplestep ELISA kit. SimpleStep ELISA kit shows increased performance.



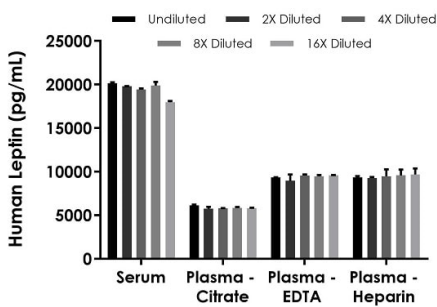
SimpleStep ELISA Protocol Diagram

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.



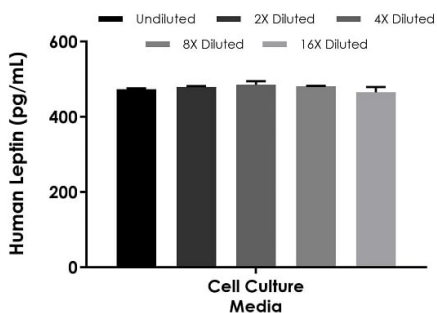
Example of human Leptin standard curve in Sample Diluent NS.

The Leptin standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



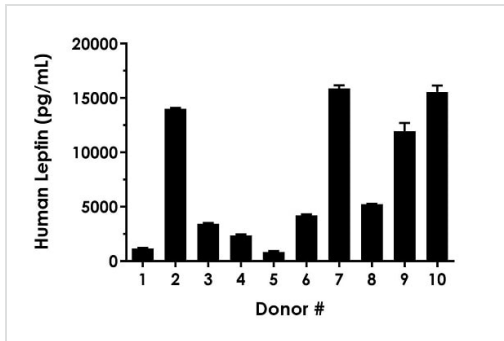
Interpolated concentrations of native Leptin in human serum and plasma.

The concentrations of Leptin were measured in duplicates, interpolated from the Leptin standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 2.5%, plasma (citrate) 10%, plasma (edta) 10%, and plasma (heparin) 10%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Leptin concentration was determined to be 19,448 pg/mL in serum, 5,865 pg/mL in plasma (citrate), 9,377 pg/mL in plasma (edta), and 9,463 pg/mL in plasma (heparin).



Interpolated concentrations of spike Leptin in cell culture media samples.

The concentrations of Leptin were measured in duplicates, interpolated from the Leptin standard curves and corrected for sample dilution. Undiluted samples are as follows: cell culture media 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).



Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Leptin concentration was determined to be 7,463 pg/mL with a range of 836 – 15,878 pg/mL.

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

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

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors