

Rat Adiponectin ELISA Kit ab239421

Recombinant SimpleStep ELISA

3 References 6 Images

Overview

Product name Rat Adiponectin ELISA Kit

Detection method Colorimetric

Precision Intra-assay

Sample	n	Mean	SD	CV%
serum	8			2.3%

Inter-assay

Sample	n	Mean	SD	CV%
serum	3			6.2%

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

Assay type Sandwich (quantitative)

Sensitivity 3 pg/ml

Range 9.38 pg/ml - 600 pg/ml

Recovery Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	92	89% - 95%
Urine	78	63% - 87%
Serum	101	93% - 114%
Hep Plasma	89	89% - 91%
EDTA Plasma	91	89% - 96%
Cit plasma	91	85% - 94%

Assay time	1h 30m
Assay duration	One step assay
Species reactivity	Reacts with: Rat
Product overview	Rat Adiponectin ELISA Kit (ab239421) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Adiponectin protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, serum, and urine. It uses our proprietary SimpleStep ELISA® technology. Quantitate Rat Adiponectin with 3 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.

Platform	Pre-coated microplate (12 x 8 well strips)
-----------------	--

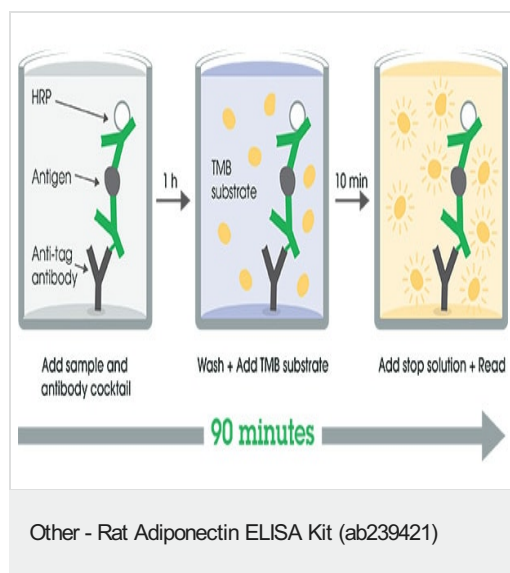
Properties

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

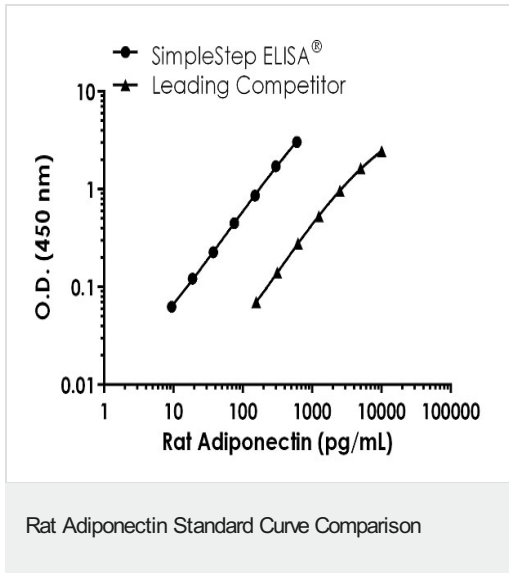
Components	1 x 96 tests
10X Rat Adiponectin Capture Antibody	1 x 600µl
10X Rat Adiponectin Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 4BR	1 x 6ml
Plate Seals	1 unit
Rat Adiponectin Lyophilized Recombinant Protein	2 vials
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

Function	Important adipokine involved in the control of fat metabolism and insulin sensitivity, with direct anti-diabetic, anti-atherogenic and anti-inflammatory activities. Stimulates AMPK phosphorylation and activation in the liver and the skeletal muscle, enhancing glucose utilization and fatty-acid combustion. Antagonizes TNF-alpha by negatively regulating its expression in various tissues such as liver and macrophages, and also by counteracting its effects. Inhibits endothelial NF-kappa-B signaling through a cAMP-dependent pathway. May play a role in cell growth, angiogenesis and tissue remodeling by binding and sequestering various growth factors with distinct binding affinities, depending on the type of complex, LMW, MMW or HMW.
Tissue specificity	Synthesized exclusively by adipocytes and secreted into plasma.
Involvement in disease	Defects in ADIPOQ are the cause of adiponectin deficiency (ADPND) [MIM:612556]. ADPND results in very low concentrations of plasma adiponectin. Genetic variations in ADIPOQ are associated with non-insulin-dependent diabetes mellitus (NIDDM) [MIM:125853]; also known as diabetes mellitus type 2. NIDDM is characterized by an autosomal dominant mode of inheritance, onset during adulthood and insulin resistance.
Sequence similarities	Contains 1 C1q domain. Contains 1 collagen-like domain.
Domain	The C1q domain is commonly called the globular domain.
Post-translational modifications	Hydroxylated Lys-33 was not identified in PubMed:16497731, probably due to poor representation of the N-terminal peptide in mass fingerprinting. HMW complexes are more extensively glycosylated than smaller oligomers. Hydroxylation and glycosylation of the lysine residues within the collagen-like domain of adiponectin seem to be critically involved in regulating the formation and/or secretion of HMW complexes and consequently contribute to the insulin-sensitizing activity of adiponectin in hepatocytes. O-glycosylated. Not N-glycosylated. O-linked glycans on hydroxylysines consist of Glc-Gal disaccharides bound to the oxygen atom of post-translationally added hydroxyl groups. Sialylated to varying degrees depending on tissue. Thr-22 appears to be the major site of sialylation. Higher sialylation found in SGBS adipocytes than in HEK fibroblasts. Sialylation is not required neither for heterodimerization nor for secretion. Not sialylated on the glycosylated hydroxylysines. Desialylated forms are rapidly cleared from the circulation.
Cellular localization	Secreted.

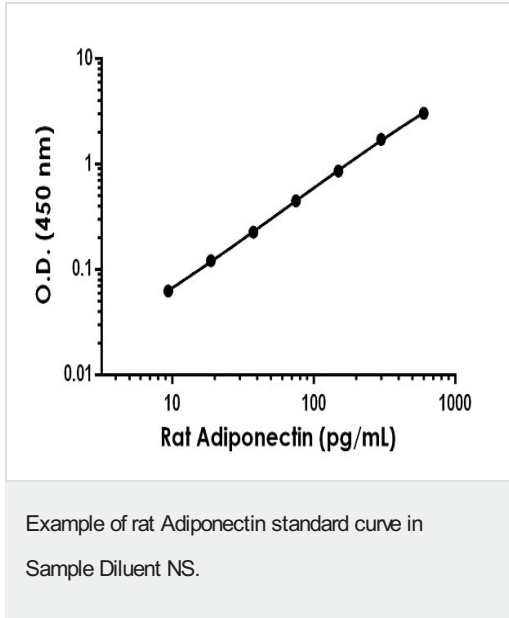
Images



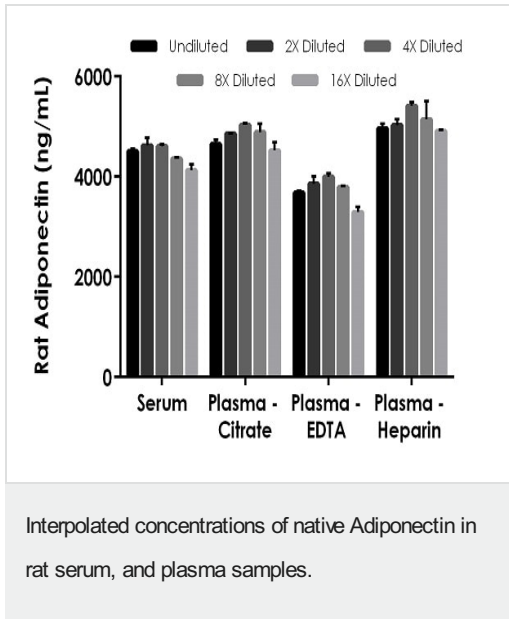
SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



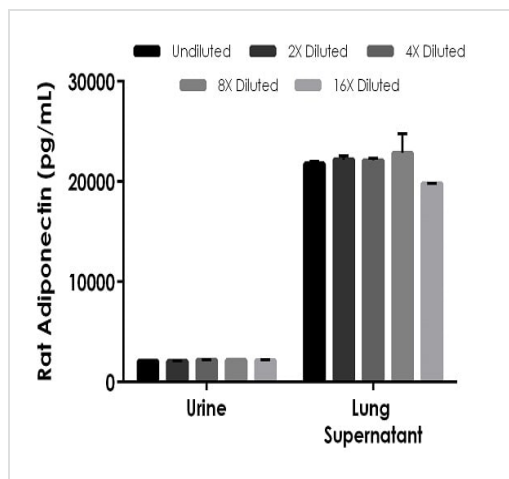
Standard Curve comparison between rat Adiponectin SimpleStep ELISA kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows increased sensitivity.



The Adiponectin 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.



The concentrations of Adiponectin were measured in duplicates, interpolated from the Adiponectin standard curves and corrected for sample dilution. Undiluted samples are as follows: serum $1:1.7 \times 10^4$, plasma (citrate) $1:1.7 \times 10^4$, plasma (EDTA) $1:1.7 \times 10^4$, and plasma (heparin) $1:1.7 \times 10^4$. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Adiponectin concentration was determined to be 4444 ng/mL in serum, 4789 ng/mL in plasma (citrate), 3725 ng/mL in plasma (EDTA) and 5091 ng/mL in plasma (heparin).



Interpolated concentrations of native Adiponectin in rat urine and cell culture supernatant samples.

The concentrations of Adiponectin were measured in duplicates, interpolated from the Adiponectin standard curves and corrected for sample dilution. Undiluted samples are as follows: urine 25%, and lung cell culture supernatant 1: 6.67x10⁴. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Adiponectin concentration was determined to be 2147 pg/mL in urine and 21,756 pg/mL in lung cell culture supernatant.

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 - Rat Adiponectin ELISA Kit
(ab239421)

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"

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