

Product datasheet

Mouse Retinol Binding Protein 4 ELISA Kit ab202404

Recombinant SimpleStep ELISA

[2 References](#) [8 Images](#)

Overview

Product name Mouse Retinol Binding Protein 4 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
overall	5			4.5%

Inter-assay

Sample	n	Mean	SD	CV%
overall	3			3.8%

Sample type

Cell culture supernatant, Urine, Serum, Cell culture extracts, Tissue Extracts, Hep Plasma, EDTA Plasma, Cit plasma

Assay type

Sandwich (quantitative)

Sensitivity

1.6 pg/ml

Range

12.5 pg/ml - 800 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	105	97% - 112%
Urine	98	94% - 104%
Serum	101	96% - 106%
Hep Plasma	94	91% - 96%
EDTA Plasma	99	94% - 103%

Sample type	Average %	Range
Cit plasma	99	92% - 104%
Tissue Homogenate	112	104% - 130%

Assay time

1h 30m

Assay duration

One step assay

Species reactivity

Reacts with: Mouse

Does not react with: Sheep, Goat, Cow, Pig

Product overview

Mouse Retinol Binding Protein 4 ELISA Kit (ab202404) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Retinol Binding Protein 4 protein in cell culture extracts, cell culture supernatant, serum, tissue extracts, urine, cit plasma, edta plasma, and hep plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Mouse Retinol Binding Protein 4 with 1.6 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

Retinol-Binding Protein 4 (RBP4) is a small, highly conserved member of the lipocalin superfamily involved in the transportation of retinol (Vitamin A) in blood. Synthesized in hepatocytes and adipocytes, RBP4 is also an adipokine involved in insulin resistance in the AG4KO mouse model. Elevated serum levels of RBP4 are seen in obesity and Type 2 diabetes.

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.

It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

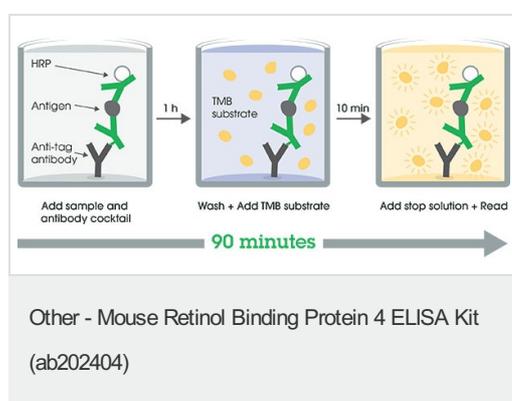
Storage instructions

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

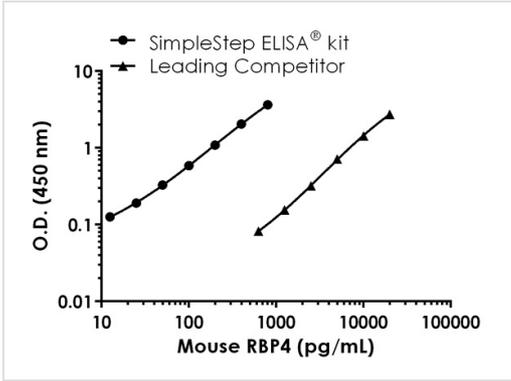
Components	1 x 96 tests
10X Mouse RBP4 Capture Antibody	1 x 600µl
10X Mouse RBP4 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent 4BC	1 x 6ml
Mouse RBP4 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
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	Delivers retinol from the liver stores to the peripheral tissues. In plasma, the RBP-retinol complex interacts with transthyretin, this prevents its loss by filtration through the kidney glomeruli.
Involvement in disease	Defects in RBP4 are a cause of retinol-binding protein deficiency (RBP deficiency) [MIM:180250]. This condition causes night vision problems. It produces a typical 'fundus xerophthalmicus', featuring a progressed atrophy of the retinal pigment epithelium.
Sequence similarities	Belongs to the calycin superfamily. Lipocalin family.
Cellular localization	Secreted.

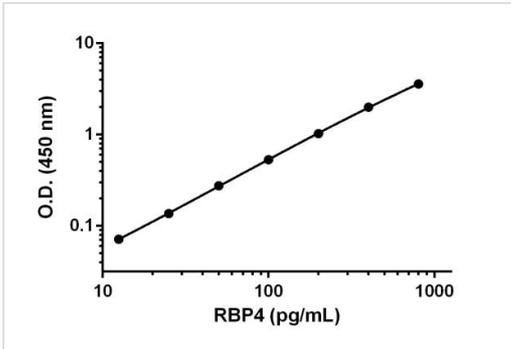
Images



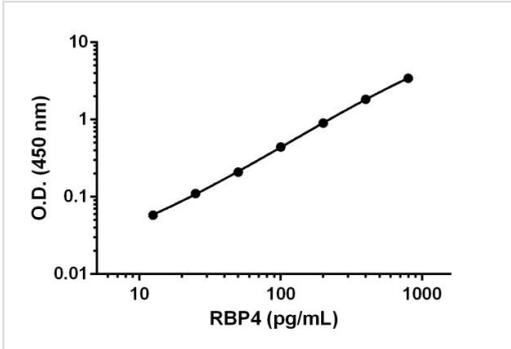
SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



Mouse RBP4 standard curve comparison data



Example of RBP4 standard curve prepared in Sample Diluent NS

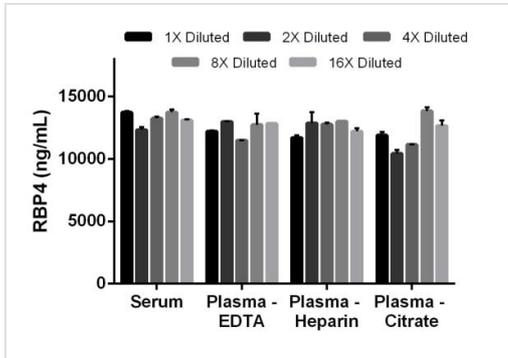


Example of RBP4 standard curve prepared in 1X Cell Extraction Buffer PTR.

Standard curve comparison between mouse RBP4 SimpleStep ELISA[®] kit and traditional ELISA kit from leading competitor. SimpleStep kit shows a 25-fold increase in sensitivity.

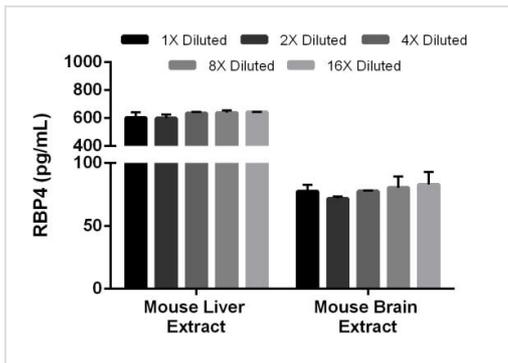
Background-subtracted data values (mean +/- SD) are graphed.

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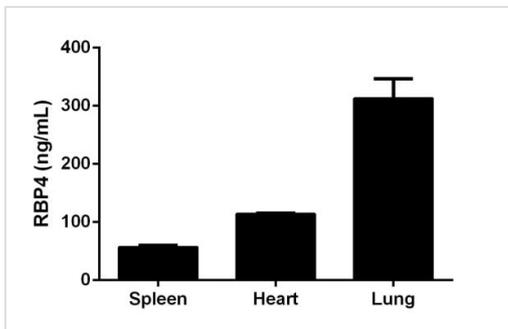
Background-subtracted data values (mean +/- SD, n = 2) are graphed.

Titration of mouse serum and plasma within the working range of the assay



Interpolated values of RBP4 are plotted for the indicated tissue extracts based on an extract load of 30 µg/mL. Background-subtracted data values (mean +/- SD, n = 2) are graphed.

Titration of mouse liver extract and mouse brain extract within the working range of the assay



Background-subtracted data values (mean +/- SD, n = 2) are graphed.

Quantitation of RBP4 expression in different tissue culture supernatants

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 - Mouse Retinol Binding Protein 4
ELISA Kit (ab202404)

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

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