Product datasheet

Human Retinol Binding Protein 4 ELISA Kit ab196264
SimpleStep ELISA®

7 Images

Overview

Product name: Human Retinol Binding Protein 4 ELISA Kit
Detection method: Colorimetric

<table>
<thead>
<tr>
<th>Precision</th>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intra-assay</td>
<td>Serum</td>
<td>5</td>
<td></td>
<td></td>
<td>5.1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter-assay</td>
<td>Serum</td>
<td>3</td>
<td></td>
<td></td>
<td>8.9%</td>
</tr>
</tbody>
</table>

Sample type: Cell culture supernatant, Saliva, Milk, Urine, Serum, Hep Plasma, EDTA Plasma, Cit plasma
Assay type: Sandwich (quantitative)
Sensitivity: 2.6 pg/ml
Range: 15.6 pg/ml - 1000 pg/ml

Recovery

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saliva</td>
<td>104</td>
<td>99% - 108%</td>
</tr>
<tr>
<td>Milk</td>
<td>103</td>
<td>100% - 108%</td>
</tr>
<tr>
<td>Urine</td>
<td>110</td>
<td>106% - 113%</td>
</tr>
<tr>
<td>Serum</td>
<td>109</td>
<td>104% - 111%</td>
</tr>
<tr>
<td>Cell culture media</td>
<td>101</td>
<td>99% - 102%</td>
</tr>
<tr>
<td>Hep Plasma</td>
<td>103</td>
<td>91% - 110%</td>
</tr>
<tr>
<td>Sample type</td>
<td>Average %</td>
<td>Range</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------</td>
<td>----------------</td>
</tr>
<tr>
<td>EDTA Plasma</td>
<td>108</td>
<td>106% - 110%</td>
</tr>
<tr>
<td>Cit plasma</td>
<td>109</td>
<td>106% - 114%</td>
</tr>
<tr>
<td>serum free media</td>
<td>103</td>
<td>93% - 113%</td>
</tr>
</tbody>
</table>

**Assay time**
1 h 30 m

**Assay duration**
One step assay

**Species reactivity**
Reacts with: Human

**Product overview**
As of March 9, 2018, Human RBP4 SimpleStep ELISA® kit has been re-developed. We have identified new recombinant monoclonal antibodies to provide improved performance and consistency when quantifying RBP4 protein in human serum, plasma, urine, saliva, milk, and cell culture supernatant.

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 circulating protein that binds to and transports retinol (vitamin A) in serum. The RBP4-retinol complex further interacts with prealbumin (also known as transthyretin) which increases its half-life in circulation. RBP4 is produced by hepatocytes and adipocytes. Loss of functional RBP4 protein results in serum retinol deficiency which can impact vision.

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

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

<table>
<thead>
<tr>
<th>Components</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X Human RBP-4 Capture Antibody</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>10X Human RBP-4 Detector Antibody</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>10X Wash Buffer PT (ab206977)</td>
<td>1 x 20ml</td>
</tr>
</tbody>
</table>
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.

Retinal dystrophy, iris coloboma, and comedogenic acne syndrome

Belongs to the calycin superfamily. Lipocalin family.

Secreted.

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 Human RBP4 SimpleStep ELISA® kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows increased sensitivity.
The RBP4 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 RBP4 were measured in duplicates, interpolated from the RBP4 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:400,000, plasma (citrate) 1:200,000, plasma (EDTA) 1: 100,000, and plasma (heparin) 1:200,000. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean RBP4 concentration was determined to be 22.2 µg/mL in serum, 21.9 Âµg/mL in plasma (citrate), 15.1 Âµg/mL in plasma (EDTA) and 52.9 Âµg/mL in plasma (heparin).

The concentrations of RBP4 were measured in duplicates, interpolated from the RBP4 standard curves and corrected for sample dilution. Undiluted samples are as follows: Â saliva 1:80, urine 1: 160, milk 1:1000, and HEPG2 cell culture supernatant 1:1000. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean RBP4 concentration was determined to be 16.2 ng/mL in saliva, 66.3 ng/mL in urine, 111 ng/mL in milk and 1071 ng/mL in HEPG2 cell culture supernatant.
Serum from ten individual healthy human male donors was measured in duplicate. Interpolated dilution factor corrected values are plotted (mean ± SD, n=2). The mean RBP4 concentration was determined to be 44 µg/mL with a range of 28 – 67 µg/mL.

Bovine serum was prepared at 1% and diluted 2-fold for 8 points. Bovine reactivity was seen at serum levels greater than 0.03%.

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