

## Product datasheet

# Human Prekallikrein 1B ELISA Kit ab202405

SimpleStep ELISA<sup>®</sup>

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### Overview

**Product name** Human Prekallikrein 1B ELISA Kit

**Detection method** Colorimetric

**Precision**

Intra-assay

Sample	n	Mean	SD	CV%
overall	5			6.3%

Inter-assay

Sample	n	Mean	SD	CV%
overall	3			5.8%

**Sample type**

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

**Assay type**

Sandwich (quantitative)

**Sensitivity**

154 pg/ml

**Range**

0.47 ng/ml - 30 ng/ml

**Recovery**

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	94	87% - 101%
Milk	85	82% - 91%
Serum	92	84% - 98%
Hep Plasma	91	87% - 97%
EDTA Plasma	101	88% - 107%
Cit plasma	92	87% - 95%

<b>Assay time</b>	1h 30m
<b>Assay duration</b>	One step assay
<b>Species reactivity</b>	<b>Reacts with:</b> Human <b>Does not react with:</b> Sheep, Goat, Cow, Pig
<b>Product overview</b>	<p>Human Prekallikrein 1B ELISA Kit (ab202405) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Prekallikrein 1B protein in cit plasma, edta plasma, hep plasma, milk, serum, and cell culture supernatant. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Prekallikrein 1B with 154 pg/ml sensitivity.</p> <p>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:</p> <ul style="list-style-type: none"> <li>- Single-wash protocol reduces assay time to 90 minutes or less</li> <li>- High sensitivity, specificity and reproducibility from superior antibodies</li> <li>- Fully validated in biological samples</li> <li>- 96-wells plate breakable into 12 x 8 wells strips</li> </ul> <p>A 384-well SimpleStep ELISA® microplate (<a href="#">ab203359</a>) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.</p> <p><b>ASSAY SPECIFICITY</b> This kit recognizes Prekallikrein 1B protein in serum, plasma, milk and cell culture supernatant only. Cell and tissue extract samples have not been tested with this kit</p> <p><b>CROSS REACTIVITY</b> Human SERPINA-5 and Human HMW Kininogen were prepared at 100 ng/mL and assayed for cross reactivity. No cross-reactivity was observed.</p> <p><b>INTERFERENCE</b> Human SERPINA-5 and Human HMW Kininogen were prepared at 100 ng/mL and assayed for assay interference in the presence of 10 ng/mL of Plasma Kallikrein 1B. No interference was observed.</p> <p><b>SPECIES REACTIVITY</b> This kit recognizes Human Prekallikrein 1B protein. Reactivity to other species was determined by measuring 0.01% serum samples of various species, interpolating the protein concentrations from the human standard curve, and expressing the interpolated concentrations as a percentage of the protein concentration in human serum assayed at the same dilution. Reactivity &lt; 1% was determined for the following species: Mouse, Rat, Guinea Pig, Rabbit, dog, Sheep, Goat, Pig and Cow.</p>
<b>Notes</b>	<p>Prekallikrein 1B (KLKB1) is a 88 kDa serine protease involved in blood coagulation, kinin generation, fibrinolysis and inflammation. Prekallikrein 1B is synthesized in the liver and circulates in the blood stream as a free zymogen or in a complex with high molecular weight kininogen. Prekallikrein 1B has a signal peptide (aa1-19) and a pro form (aa20-638). It is composed of a heavy chain and a light chain which are cleaved upon activation.</p>
<b>Platform</b>	Pre-coated microplate (12 x 8 well strips)

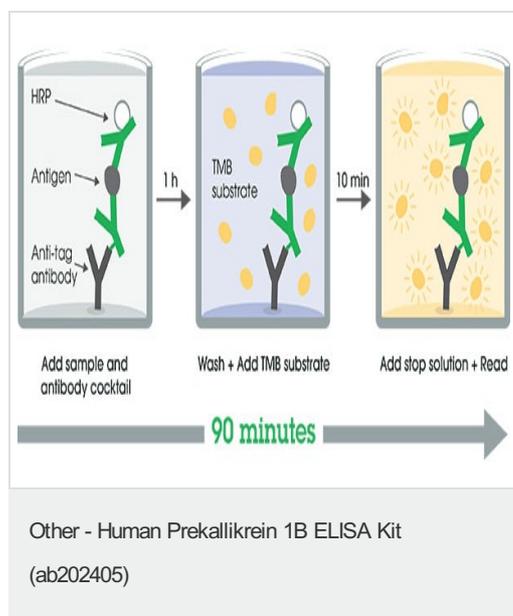
## Properties

### Storage instructions

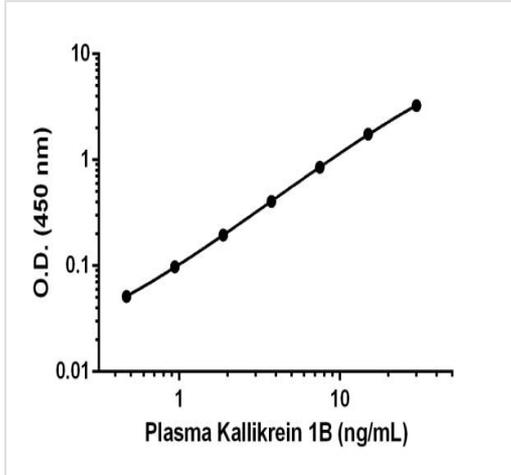
Store at +4°C. Please refer to protocols.

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

## 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.



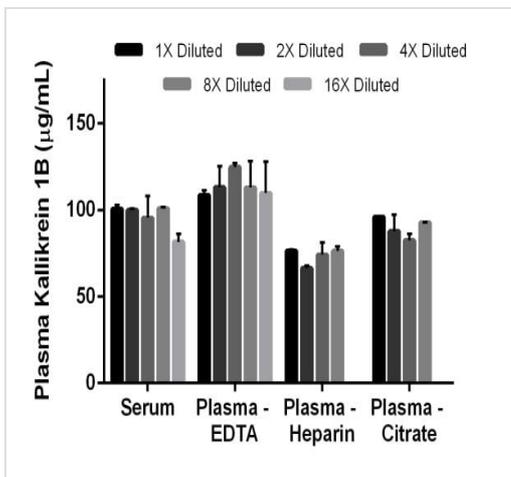
Example of Prekallikrein 1B standard curve.

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

Standard Curve Measurements			
Conc. (ng/mL)	O.D. 450 nm		Mean O.D.
	1	2	
0	0.062	0.067	0.064
0.47	0.118	0.114	0.116
0.94	0.162	0.163	0.162
1.88	0.261	0.259	0.260
3.75	0.470	0.470	0.470
7.5	0.916	0.916	0.916
15	1.800	1.836	1.818
30	3.241	3.417	3.329

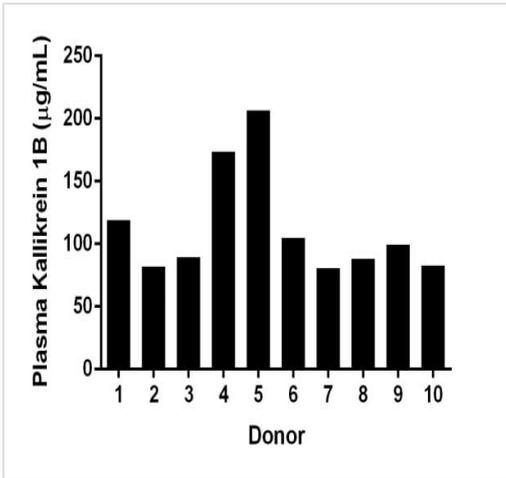
Standard curve

Example of Prekallikrein 1B standard curve. The Prekallikrein 1B standard curve was prepared as described. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



Titration of human serum and plasma within the working range of the assay.

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



Interpolated concentrations of Prekallikrein 1B levels in individual healthy donors.

Serum from 10 healthy male donors was measured in duplicate. The mean Plasma Kallikrein 1B concentration was determined to be 112.6 µg/mL with a range of 80.8 – 206.4 µg/mL in male donors.

Dilution Factor	Interpolated value	0.016% Human Serum	0.016% Human Plasma (Citrate)	0.016% Human Plasma (EDTA)	0.016% Human Plasma (Heparin)
Undiluted	ng/mL	15.7	15	17	12
	% Expected value	100	100	100	100
2	ng/mL	7.8	6.9	8.8	5.2
	% Expected value	99	91	104	87
4	ng/mL	3.7	3.2	4.9	2.9
	% Expected value	95	86	115	97
8	ng/mL	2.0	1.8	2.2	1.5
	% Expected value	100	97	104	100
16	ng/mL	0.8	NL	1.1	NL
	% Expected value	81	NL	101	NL

Dilution Factor	Interpolated value	100% Cell Culture Supernatant	6.67% Human Milk
Undiluted	ng/mL	21.6	14.7
	% Expected value	100	100
2	ng/mL	10.00	7.1
	% Expected value	93	97
4	ng/mL	4.9	3.7
	% Expected value	91	100
8	ng/mL	2.4	2.2
	% Expected value	90	120
16	ng/mL	1.2	NL
	% Expected value	89	NL

NL – Non-Linear

Linearity of dilution is determined based on interpolated values from the standard curve. Linearity of dilution defines a sample concentration interval in which interpolated target concentrations are directly proportional to sample dilution.

Native PreKallikrein 1B was measured in the following biological samples in a 2-fold dilution series. Sample dilutions are made in Sample Diluent NS.

Linearity of dilution.

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