abcam

Product datasheet

Human ACE2 ELISA Kit ab235649

Recombinant SimpleStep ELISA

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Overview

Product name Human ACE2 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
extract	8			2.3%

Inter-assay

Sample	n	Mean	SD	CV%
extract	3			3.2%

Sample type Urine, Serum, Tissue Extracts, Cell culture media, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 1052 pg/ml

Range 3.98 ng/ml - 255 ng/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Urine	88	85% - 89%
Serum	99	% - %
Tissue Extracts	104	100% - 108%
Cell culture media	112	110% - 116%
Hep Plasma	82	81% - 84%
EDTA Plasma	91	90% - 92%

Sample type	Average %	Range
Cit plasma	99	98% - 100%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Human

Product overview Human ACE2 ELISA Kit (ab235649) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of native ACE2 protein in tissue extracts and urine. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human ACE2 with 1052 pg/ml sensitivity.

Note: Plasma, serum, and cell culture media samples were validated with spiked recombinant ACE2. Neat serum from ten individual healthy human female/male donors was measured in duplicate and all values were below the detectable range of the assay.

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 ACE2 is a key enzyme in the renin-angiotensin system which regulates blood pressure. Specifically, ACE2 cleaves the terminal nonapeptide from angiotensin I or the terminal septapeptide from angiotensin II to create angiotensin[1-9] and angiotensin[1-7], respectively. The produced peptides work to oppose the effects of angiotensin II and act as a vasodilator. This enzyme is currently under investigation as a potential target for reducing instances of heart failure.

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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)

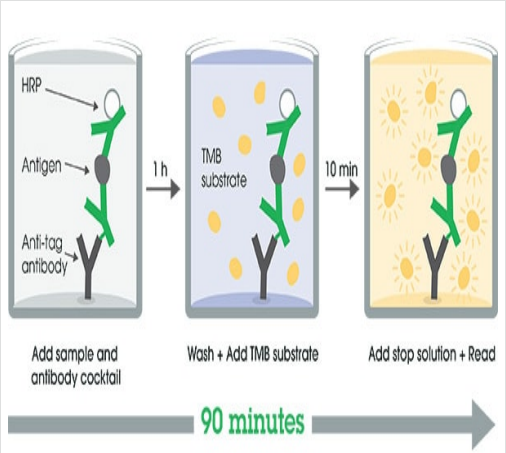
Properties

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

Components	1 x 96 tests
10X Human ACE2 Capture Antibody	1 x 600µl
10X Human ACE2 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 4BI	1 x 6ml
Human ACE2 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 12ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

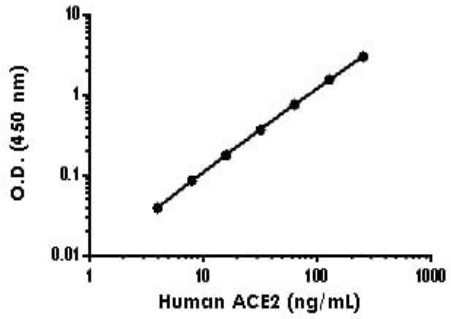
Function	Carboxypeptidase which converts angiotensin I to angiotensin 1-9, a peptide of unknown function, and angiotensin II to angiotensin 1-7, a vasodilator. Also able to hydrolyze apelin-13 and dynorphin-13 with high efficiency. May be an important regulator of heart function. In case of human coronaviruses SARS and HCoV-NL63 infections, serve as functional receptor for the spike glycoprotein of both coronaviruses.
Tissue specificity	Expressed in endothelial cells from small and large arteries, and in arterial smooth muscle cells. Expressed in lung alveolar epithelial cells, enterocytes of the small intestine, Leydig cells and Sertoli cells (at protein level). Expressed in heart, kidney, testis, and gastrointestinal system.
Sequence similarities	Belongs to the peptidase M2 family.
Post-translational modifications	N-glycosylation on Asn-90 may limit SARS infectivity.
Cellular localization	Secreted and Cell membrane.

Images



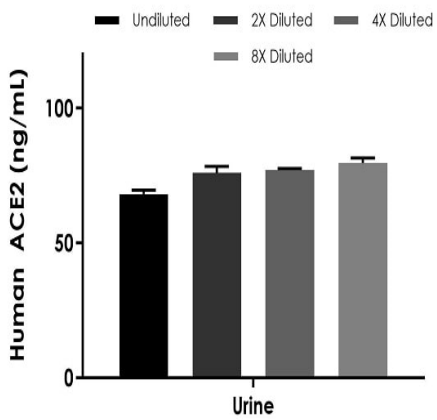
SimpleStep ELISA Protocol Diagram

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.



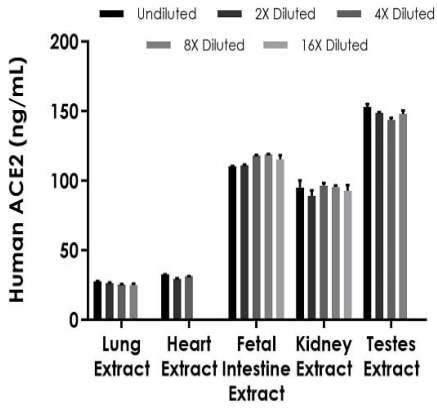
Example of human ACE2 standard curve in 1X Cell Extraction Buffer PTR.

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



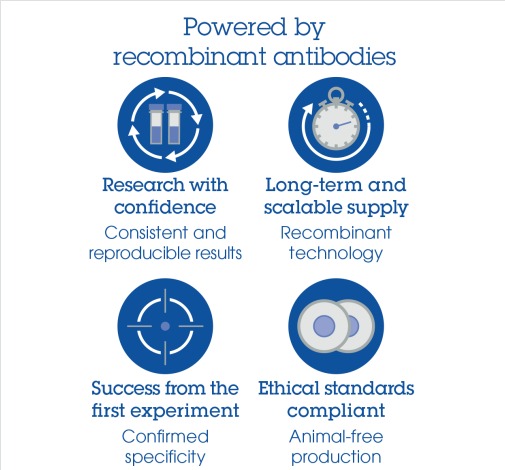
Interpolated concentrations of native ACE2 in human urine samples.

The concentrations of ACE2 were measured in duplicates, interpolated from the ACE2 standard curves and corrected for sample dilution. Undiluted samples are as follows: urine 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean ACE2 concentration was determined to be 75.24 ng/mL in urine.



Interpolated concentrations of native ACE2 in human lung, heart, fetal intestine, kidney, and testes samples.

The concentrations of ACE2 were measured in duplicate and interpolated from the ACE2 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean ACE2 concentration was determined to be 26 ng/mL in lung extract, 31 ng/mL in heart extract, 115 ng/mL in fetal intestine, 94 ng/mL in kidney, and 146 ng/mL in testes extract.



Sandwich ELISA - Human ACE2 ELISA Kit

(ab235649)

To learn more about the advantages of recombinant antibodies see **here**.

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