

Product datasheet

Human Cytokeratin 18 ELISA Kit ab227896

Recombinant SimpleStep ELISA

[9 Images](#)

Overview

Product name Human Cytokeratin 18 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Overall	5			2.1%

Inter-assay

Sample	n	Mean	SD	CV%
Overall	3			8.4%

Sample type

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

Assay type

Sandwich (quantitative)

Sensitivity

3.4 pg/ml

Range

15.6 pg/ml - 1000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	100	99% - 102%
Cell culture extracts	110	106% - 115%
Cell culture media	109	107% - 110%
Hep Plasma	99	97% - 99%
EDTA Plasma	99	97% - 100%

Sample type	Average %	Range
Cit plasma	95	93% - 97%

Assay time

1h 30m

Assay duration

One step assay

Species reactivity

Reacts with: Human

Does not react with: Cow

Product overview

Human Cytokeratin 18 ELISA Kit (ab227896) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Cytokeratin 18 protein in cell culture extracts, cit plasma, edta plasma, hep plasma, serum, cell culture supernatant, and tissue extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Cytokeratin 18 with 3.4 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

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

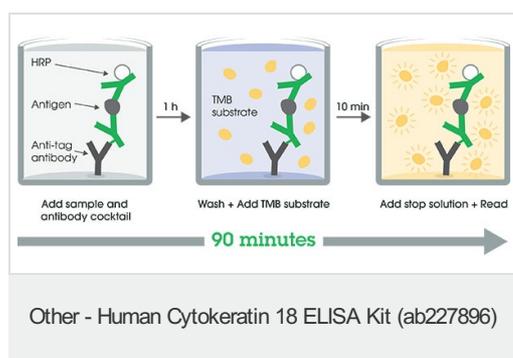
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X 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

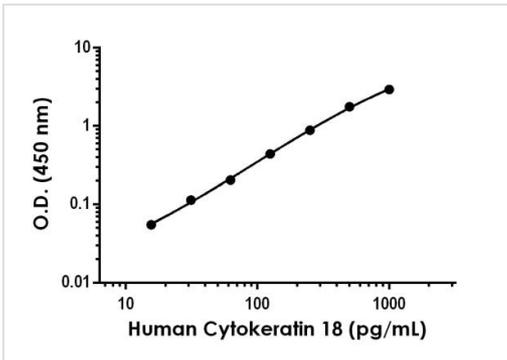
Components	1 x 96 tests
Antibody Diluent 4BI	1 x 6ml
10X Human Cytokeratin 18 Capture Antibody	1 x 600µl
10X Human Cytokeratin 18 Detector Antibody	1 x 600µl
Human Cytokeratin 18 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent LS	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

Function	Involved in the uptake of thrombin-antithrombin complexes by hepatic cells (By similarity). When phosphorylated, plays a role in filament reorganization. Involved in the delivery of mutated CFTR to the plasma membrane. Together with KRT8, is involved in interleukin-6 (IL-6)-mediated barrier protection.
Tissue specificity	Expressed in colon, placenta, liver and very weakly in exocervix. Increased expression observed in lymph nodes of breast carcinoma.
Involvement in disease	Defects in KRT18 are a cause of cirrhosis (CIRRH) [MIM:215600].
Sequence similarities	Belongs to the intermediate filament family.
Post-translational modifications	Phosphorylation at Ser-34 increases during mitosis. Hyperphosphorylated at Ser-53 in diseased cirrhosis liver. Phosphorylation increases by IL-6. Proteolytically cleaved by caspases during epithelial cell apoptosis. Cleavage occurs at Asp-238 by either caspase-3, caspase-6 or caspase-7. O-glycosylated at multiple sites; glycans consist of single N-acetylglucosamine residues.
Cellular localization	Cytoplasm > perinuclear region.

Images

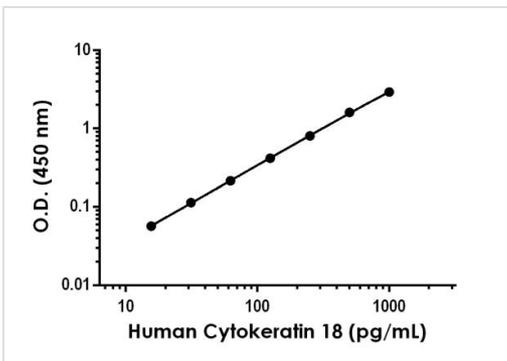


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



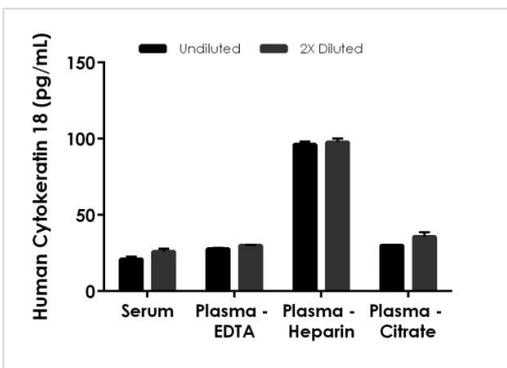
Example of Human Cytokeratin 18 standard curve in Sample Diluent NS

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



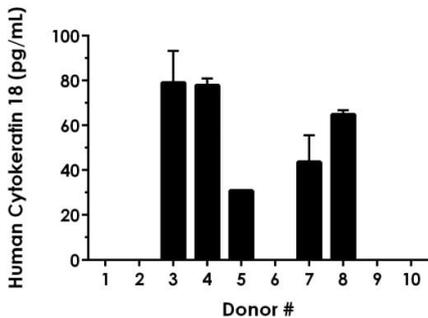
Example of Human Cytokeratin 18 standard curve in 1X Cell Extraction Buffer PTR

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



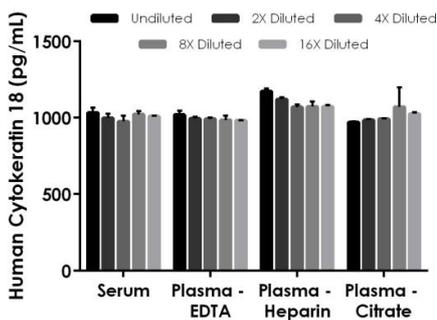
Interpolated concentrations of native Cytokeratin 18 in Human serum and plasma samples

The concentrations of Cytokeratin 18 were measured in duplicates, interpolated from the Cytokeratin 18 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 50%, plasma (EDTA) 50%, plasma (heparin) 50% and plasma (citrate) 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Cytokeratin 18 concentration was determined to be 23 pg/mL in serum, 29pg/mL in plasma (EDTA), 96 pg/mL in plasma (heparin), and 33 pg/mL in plasma (citrate).



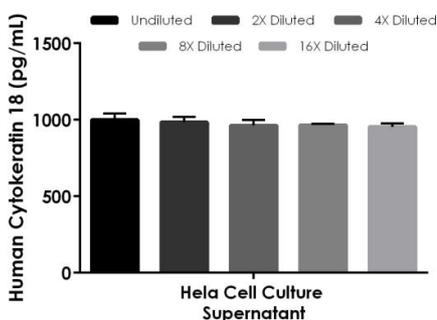
Serum from ten individual healthy Human female donors were measured in duplicate

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). 5/10 donors were below the detectable dose. The mean of the detectable donors Cytokeratin 18 concentration was determined to be 59 pg/mL with a range of 31– 79 pg/mL.



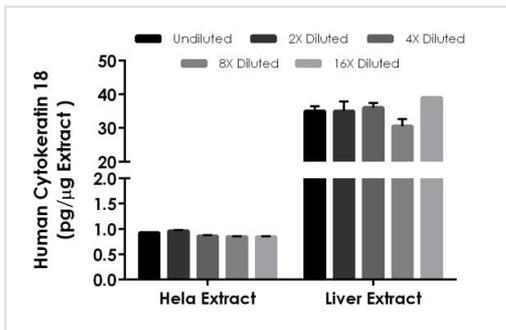
Interpolated concentrations of spiked Cytokeratin 18 in Human serum and plasma samples

The concentrations of Cytokeratin 18 were measured in duplicates, interpolated from the Cytokeratin 18 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 50%, plasma (EDTA) 50%, plasma (heparin) 50% and plasma (citrate) 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).



Interpolated concentrations of native Cytokeratin 18 in Human cell culture supernatant sample

The concentrations of Cytokeratin 18 were measured in duplicates, interpolated from the Cytokeratin 18 standard curves and corrected for sample dilution. Undiluted samples are as follows: Helia cell culture supernatant 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Cytokeratin 18 concentration was determined to be 1000 pg/mL in Helia cell culture supernatant.



Interpolated concentrations of native Cytokeratin 18 in HeLa cell extract and Human Liver tissue extract

The concentrations of Cytokeratin 18 were measured in duplicate and interpolated from the Cytokeratin 18 standard curve and corrected for sample dilution and extract load. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Cytokeratin 18 concentration was determined to be 0.89 pg / μg HeLa extract and 35 pg/ μg Liver extract.

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 - Human Cytokeratin 18 ELISA Kit (ab227896)

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

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