

Product datasheet

Human Transferrin ELISA Kit ab187391

SimpleStep ELISA[®]

[2 References](#) [7 Images](#)

Overview

Product name	Human Transferrin ELISA Kit				
Detection method	Colorimetric				
Precision	Intra-assay				
	Sample	n	Mean	SD	CV%
	Overall	8			5.2%
	Inter-assay				
	Sample	n	Mean	SD	CV%
	Overall	3			8.3%
Sample type	Cell culture supernatant, Serum, Hep Plasma, EDTA Plasma, Cit plasma				
Assay type	Sandwich (quantitative)				
Sensitivity	0.39 ng/ml				
Range	0.63 ng/ml - 40 ng/ml				
Recovery	Sample specific recovery				
	Sample type	Average %	Range		
	Serum	92	86% - 104%		
	Cell culture media	101	97% - 103%		
	Hep Plasma	114	112% - 116%		
	EDTA Plasma	107	95% - 115%		
	Cit plasma	115	104% - 121%		
Assay time	1h 30m				

Assay duration

One step assay

Species reactivity**Reacts with:** Human**Product overview**

Human Transferrin ELISA kit has been re-developed. We have identified new recombinant monoclonal antibodies to provide improved performance and consistency.

Human Transferrin ELISA Kit (ab187391) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Transferrin protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Transferrin with 0.39 ng/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.

ASSAY SPECIFICITY This kit recognizes both native and recombinant human Transferrin protein in serum, plasma, and cell culture supernatant samples only. Urine, saliva, and cell/tissue extract samples have not been tested with this kit.

CROSS REACTIVITY Human albumin, ferritin, and hemoglobin were prepared at 40 ng/mL and assayed for cross reactivity. No cross-reactivity was observed.

SPECIES REACTIVITY This kit recognizes human Transferrin protein.

Other species reactivity was determined by measuring 1:50,000 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 < 3% was determined for the following species: Mouse, Rat, Cow

Notes

Transferrins are iron binding transport proteins which can bind two Fe³⁺ ions in association with the binding of an anion, usually bicarbonate. It is responsible for the transport of iron from sites of absorption and heme degradation to those of storage and utilization. Serum transferrin may also have a further role in stimulating cell proliferation.

Platform

Microplate

Properties

Storage instructions

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

Components	1 x 96 tests
10X Human Transferrin Capture Antibody	1 x 600µl
10X Human Transferrin Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 4BI	1 x 6ml
Human Transferrin Lyophilized Purified Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	2 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

Function Transferrins are iron binding transport proteins which can bind two Fe(3+) ions in association with the binding of an anion, usually bicarbonate. It is responsible for the transport of iron from sites of absorption and heme degradation to those of storage and utilization. Serum transferrin may also have a further role in stimulating cell proliferation.

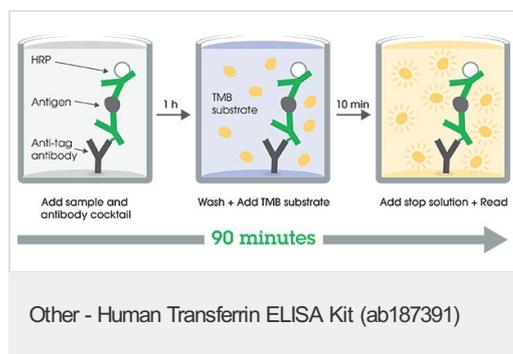
Tissue specificity Expressed by the liver and secreted in plasma.

Involvement in disease Atransferrinemia

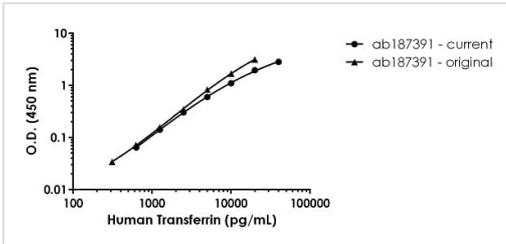
Sequence similarities Belongs to the transferrin family.
Contains 2 transferrin-like domains.

Cellular localization Secreted.

Images

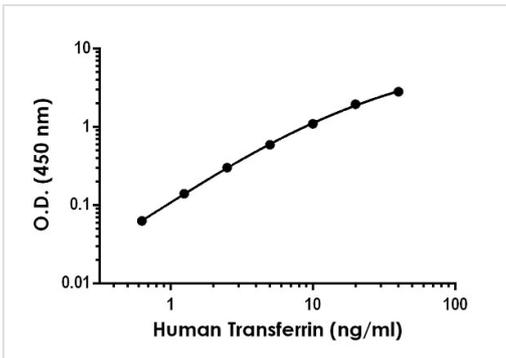


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



Human Transferrin standard curve comparison

Standard Curve comparison between the original Human Transferrin SimpleStep ELISA kit and current Human Transferrin SimpleStep ELISA kit.



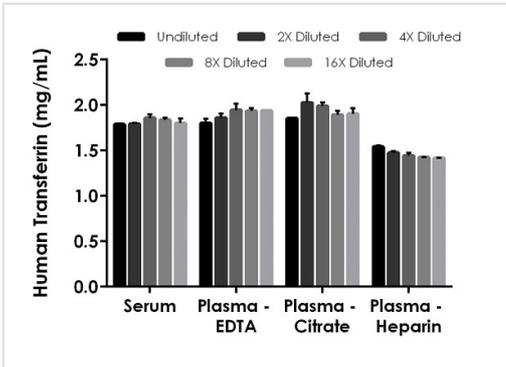
Example of human Transferrin standard curve in Sample Diluent NS.

The Transferrin 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.

Standard Curve Measurements			
Concentration (ng/ml)	O.D 450 nm		Mean O.D
	1	2	
0	0.115	0.115	0.115
0.63	0.181	0.176	0.179
1.25	0.258	0.253	0.256
2.5	0.436	0.400	0.418
5	0.746	0.678	0.712
10	1.236	1.192	1.214
20	2.105	2.043	2.074
40	2.944	2.927	2.936

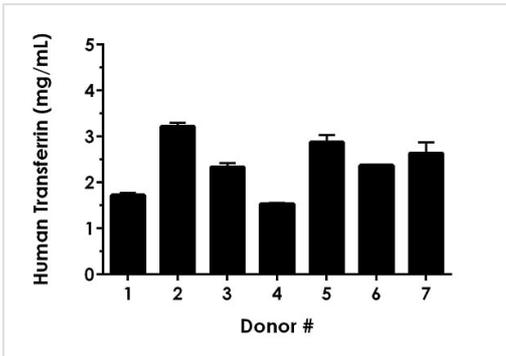
Standard curve

Example of human Transferrin standard curve in Sample Diluent NS. The Transferrin standard curve was prepared as described. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



Interpolated concentrations of native Transferrin in human serum and plasmas samples.

The concentrations of Transferrin were measured in duplicates, interpolated from the Transferrin standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:50,000, plasma (EDTA) 1:50,000, plasma (citrate) 1:50,000 and plasma (heparin) 1:50,000. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Transferrin concentration was determined to be 1.82 mg/mL in serum, 1.84 ng/mL in plasma (EDTA) and 1.86 mg/mL in plasma (citrate) and 1.43 ng/mL in plasma (heparin).



Serum from seven individual healthy human female donors was measured in duplicate.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Transferrin concentration was determined to be 2.38 mg/mL with a range of 1.54 – 3.2 mg/mL.

Dilution Factor	Interpolated value	1:50,000 Human Serum	1:50,000 Human Plasma (EDTA)	1:50,000 Human Plasma (Citrate)	1:50,000 Human Plasma (Heparin)	50% RPMI media
Undiluted	ng/mL	35.7	36.0	37.0	30.8	17.8
	% Expected value	100	100	100	100	100
2	ng/mL	17.9	18.6	20.3	14.7	9.25
	% Expected value	100	103	109	96	104
4	ng/mL	9.3	9.7	9.9	7.2	4.47
	% Expected value	104	108	107	94	101
8	ng/mL	4.6	4.8	4.7	3.6	2.27
	% Expected value	103	108	102	92	102
16	ng/mL	2.3	2.4	2.4	1.8	1.13
	% Expected value	101	108	103	92	102

NL – Non-Linear

Linearity of dilution.

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

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