

Product datasheet

Human alpha Fetoprotein ELISA Kit ab193765

Recombinant SimpleStep ELISA

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

Overview

Product name Human alpha Fetoprotein ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			2%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			4.5%

Sample type

Cell culture supernatant, Urine, Serum, Cell culture media, Hep Plasma, EDTA Plasma, Cit plasma

Assay type

Sandwich (quantitative)

Sensitivity

44.8 pg/ml

Range

156.25 pg/ml - 10000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	103	101% - 113%
Urine	119	116% - 121%
Serum	91	88% - 96%
Cell culture media	94	91% - 98%
Hep Plasma	96	94% - 97%
EDTA Plasma	100	98% - 102%

Sample type	Average %	Range
Cit plasma	89	89% - 89%

Assay time

1h 30m

Assay duration

One step assay

Species reactivity

Reacts with: Human

Product overview

Human alpha Fetoprotein ELISA Kit (ab193765) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of alpha Fetoprotein protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, serum, urine, and cell culture media. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human alpha Fetoprotein with 44.8 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

Alpha-fetoprotein (AFP) is a secreted single chain glycoprotein expressed normally during fetal development as well as by liver pathologies, including cancer. It is a member of the albuminoid superfamily and may act as a carrier protein. Pregnant women may have elevated alpha-fetoprotein levels derived from fetal circulation and male and female adults have low levels of circulating alpha-fetoprotein.

Platform

Microplate (12 x 8 well strips)

Properties

Storage instructions

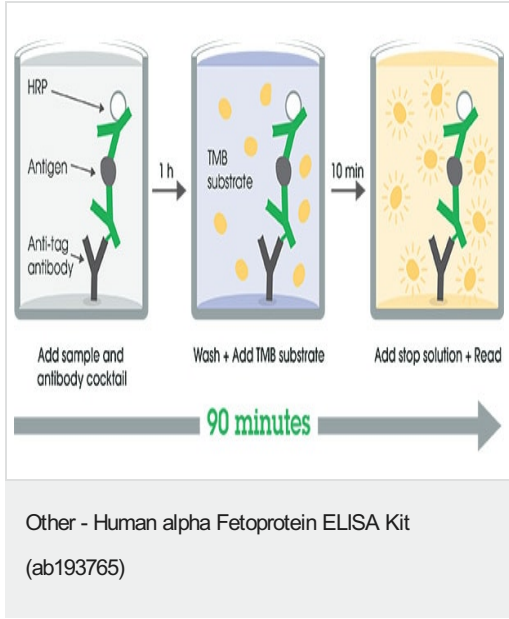
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests	1 x 96 tests
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 20ml
Antibody Diluent 5BI	1 x 6ml	1 x 6ml
Human alpha Fetoprotein Capture Antibody (Lyophilized)	1 vial	1 vial
Human alpha Fetoprotein Detector Antibody (Lyophilized)	1 vial	1 vial

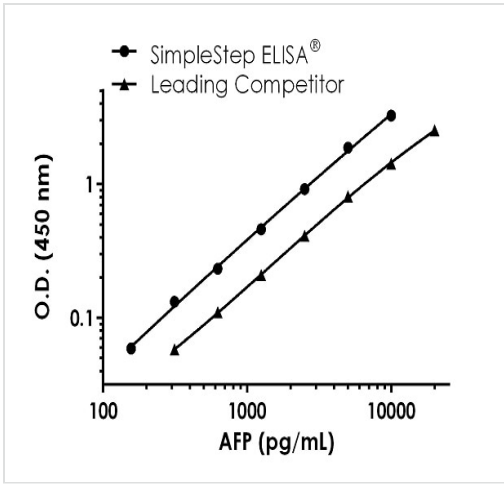
Components	1 x 96 tests	1 x 96 tests
Human alpha Fetoprotein Lyophilized Recombinant Protein	2 vials	2 vials
Plate Seals	1 unit	1 unit
Sample Diluent 75BS	1 x 20ml	1 x 20ml
Sample Diluent NS (ab193972)	1 x 12ml	1 x 12ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	1 unit
Stop Solution	1 x 12ml	1 x 12ml
TMB Development Solution	1 x 12ml	1 x 12ml

Function	Binds copper, nickel, and fatty acids as well as, and bilirubin less well than, serum albumin. Only a small percentage (less than 2%) of the human AFP shows estrogen-binding properties.
Tissue specificity	Plasma. Synthesized by the fetal liver and yolk sac.
Sequence similarities	Belongs to the ALB/AFP/VDB family. Contains 3 albumin domains.
Developmental stage	Occurs in the plasma of fetuses more than 4 weeks old, reaches the highest levels during the 12th-16th week of gestation, and drops to trace amounts after birth. The serum level in adults is usually less than 40 ng/ml. AFP occurs also at high levels in the plasma and ascitic fluid of adults with hepatoma.
Post-translational modifications	Independent studies suggest heterogeneity of the N-terminal sequence of the mature protein and of the cleavage site of the signal sequence. Sulfated.
Cellular localization	Secreted.

Images

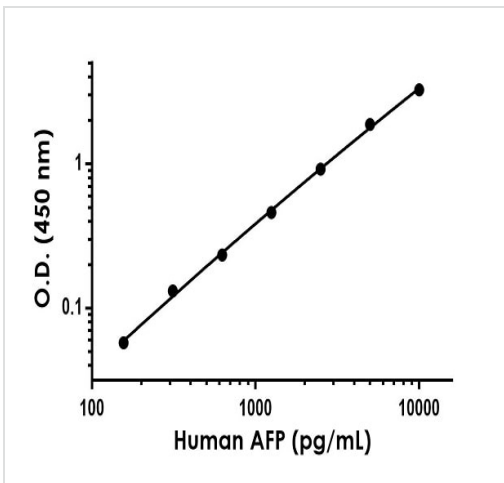


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



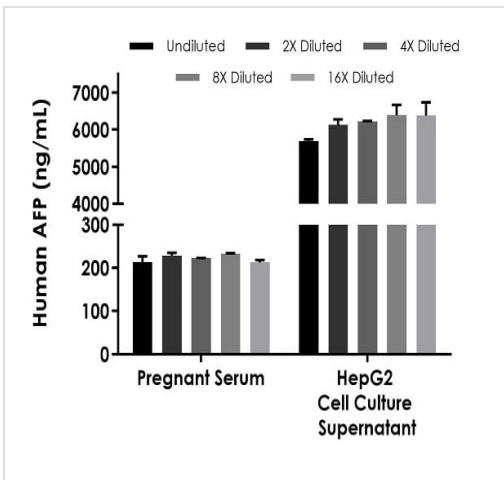
Human AFP standard curve comparison

Standard Curve comparison between human AFP SimpleStep ELISA kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows increased sensitivity.



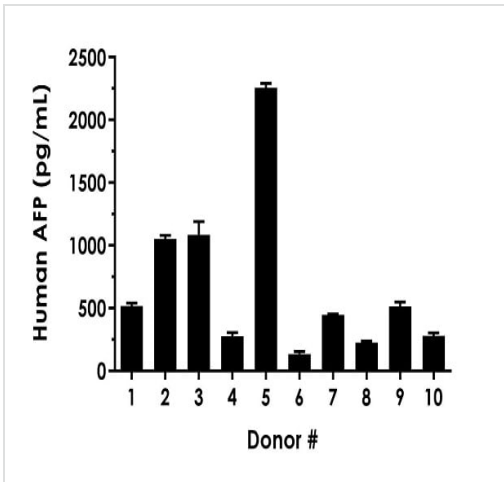
Example of human AFP standard curve in Sample Diluent 75BS.

The AFP 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.



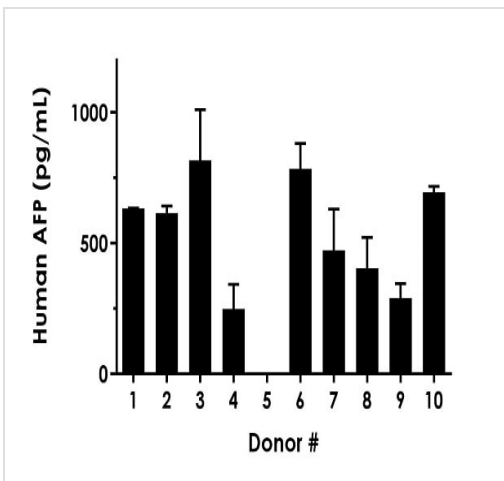
Interpolated concentrations of native AFP in pregnant human serum and HepG2 cell culture supernatant samples.

The concentrations of AFP were measured in duplicates, interpolated from the AFP standard curves and corrected for sample dilution. Undiluted samples are as follows: pregnant human serum 3% and HepG2 cell culture supernatant 1:666. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean AFP concentration was determined to be 221.8 ng/mL in neat pregnant human serum and 6,165 ng/mL in neat HepG2 cell culture supernatant.



Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean AFP concentration was determined to be 678.4 pg/mL with a range of 133.9 – 2,257 pg/mL.





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 AFP concentration in nine detectable donor samples was determined to be 550.7 pg/mL with a range of 247.9-816.1 pg/mL. Donor #5 was not detectable.

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

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

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

Sandwich ELISA - Human alpha Fetoprotein ELISA Kit (ab193765)

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