

Product datasheet

Human IgA ELISA Kit ab196263

SimpleStep ELISA[®]

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Overview

Product name Human IgA ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			4.12%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			5.92%

Sample type Cell culture supernatant, Saliva, Milk, Urine, Serum, Plasma

Assay type Sandwich (quantitative)

Sensitivity 0.25 ng/ml

Range 0.78 ng/ml - 50 ng/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Saliva	90.31	87.91% - 92.45%
Milk	92.21	81% - 101.51%
Urine	99.48	86.21% - 109.34%
Serum	98.37	81.35% - 109.17%
Cell culture media	100.65	85.17% - 117.29%
Hep Plasma	97.17	91.05% - 109.18%

Sample type	Average %	Range
EDTA Plasma	81.23	75.01% - 87.76%
Cit plasma	93.47	88.78% - 98.99%

Assay time

1h 30m

Assay duration

One step assay

Species reactivity

Reacts with: Human

Does not react with: Goat, Cow, Pig

Product overview

Abcam's Human IgA *in vitro* SimpleStep ELISA™ (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of IgA protein in Human serum, plasma, milk, urine, saliva, and culture media samples.

The SimpleStep ELISA™ employs an affinity tag labeled capture antibody and a reporter conjugated detector antibody which immunocapture the sample analyte in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. TMB substrate is added and during incubation is catalyzed by HRP, generating blue coloration. This reaction is then stopped by addition of Stop Solution completing any color change from blue to yellow. Signal is generated proportionally to the amount of bound analyte and the intensity is measured at 450 nm. Optionally, instead of the endpoint reading, development of TMB can be recorded kinetically at 600 nm.

Notes

Human Immunoglobulin A (IgA) belongs to the immunoglobulin family of proteins which include Human IgG, IgE, and IgM, and are known as antibodies. IgA has an essential role in mucosal immunity. IgA is the second most common serum Ig and is about one-fifth of the concentration of IgG, however it is the most abundant immunoglobulin in secretions, such as saliva, mucus, sweat, and tears. In normal human serum, IgA is found mainly as a monomeric, alternatively, in secretions, IgA is found as a dimer containing two additional proteins, secretory piece, and a J chain. The secretory piece is synthesized in the epithelial cells and is added to IgA as it passes into the secretions, protecting it from degradation. IgA works is with lysozymes to hydrolyze carbohydrates in bacterial cells walls to clear the infection.

The most common disease associated with high levels of IgA in the kidney is IgA nephropathy, aka Berger's disease. There is no clear clarification as to why IgA deposits occur in the kidney, however abnormality in the immune system is a possibility. Other diseases that IgA is associated with are Celiac disease and Henoch-Schonlein purpura (HSP).

Tested applications

Suitable for: Sandwich ELISA

Platform

Microplate

Properties

Storage instructions

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

Components	1 x 96 tests
10X Human IgA Capture Antibody	1 x 600µl

Components	1 x 96 tests
10X Human IgA Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent CPI - HAMA Blocker (ab193969)	1 x 6ml
Human IgA 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

Relevance

Human IgA (immunoglobulin A) is a glycosylated protein of 160 kDa and is produced as a monomer or as a J chain linked dimer. Monomeric IgA constitutes 5-15 % of the serum immunoglobulins whereas dimeric IgA is localized to mucosa surfaces such as saliva, gastrointestinal secretion, bronchial fluids and milk. Mucosal IgA plays a major role in host defence by neutralising infectious agents at mucosal surfaces. The production is usually local and antigen specific IgA producing B cells can be found in regions under the lamina propria where they mature into dimeric IgA producing plasma cells. IgA deficiency is the most common immunodeficiency that may affect both serum and mucosal produced IgA. OR: The secretory component is a component of immunoglobulin A (IgA) which consists of a portion of the polymeric immunoglobulin receptor. Polymeric IgA binds to the polymeric immunoglobulin receptor on the basolateral surface of epithelial cells and is taken up into the cell via transcytosis. The receptor-IgA complex passes through the cellular compartments before being secreted on the luminal surface of the epithelial cells, still attached to the receptor. Proteolysis of the receptor occurs and the dimeric IgA molecule, along with the secretory component, are free to diffuse throughout the lumen.

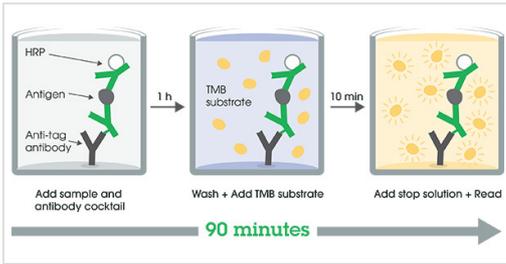
Applications

Our [Abpromise guarantee](#) covers the use of **ab196263** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

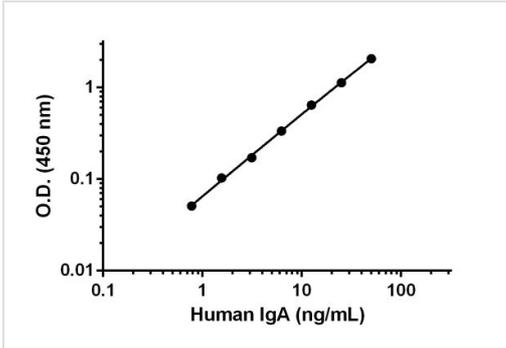
Application	Abreviews	Notes
Sandwich ELISA		Use at an assay dependent concentration.

Images



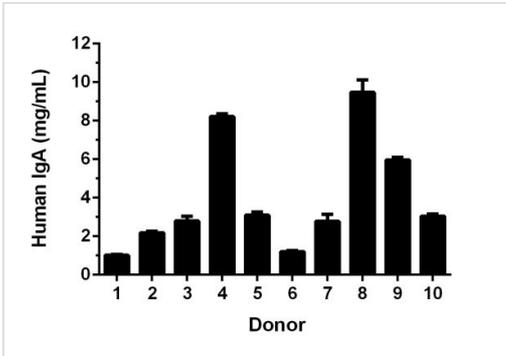
Other - Human IgA ELISA Kit (ab196263)

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.



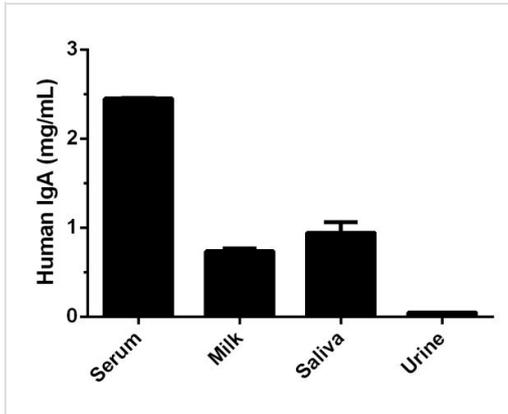
Example of Human IgA standard curve in Sample Diluent NS.

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



IgA levels in individual healthy donors.

Ten individual healthy donors were evaluated for the presence of IgA in serum using this assay. Results were interpolated from the standard curve in Sample Diluent NS and corrected for sample dilution ($1:2 \times 10^5$). The mean level of Human IgA was found at 3.978 mg/mL with a range of 1.016 – 9.476 mg/mL.



Comparison of IgA levels in Human serum, milk, saliva, and urine.

Fluids from a pooled selection of healthy donors were evaluated for the presence of Human IgA in serum, milk, saliva, and urine using this assay. Results were interpolated from the standard curve in Sample Diluent NS and corrected for sample dilution ($1:2 \times 10^5$). The mean levels of Human IgA in serum were found at 2.45 mg/mL, in milk at 0.74 mg/mL, in saliva at 0.94 mg/mL and in urine at 0.05 mg/mL.

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