abcam

Product datasheet

Rat IgG ELISA Kit ab189578

SimpleStep ELISA

7 References 7 Images

Overview

Product name Rat IgG ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Overall	3			2.66%

Inter-assay

Sample	n	Mean	SD	CV%
Overall	3			3.61%

Sample type Cell culture supernatant, Serum, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 55 pg/ml

Range 0.31 ng/ml - 20 ng/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Antibody Diluent 4B	103.7	99.4% - 110.97%
OF DMEM Medium	76.5	62.8% - 94%
10F DMEM Medium	79.1	67.5% - 98%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Rat
Does not react with: Goat, Cow, Pig

Product overview Rat IgG ELISA Kit (ab189578) is a single-wash 90 min sandwich ELISA designed for the

quantitative measurement of IgG protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Rat IgG with 55 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.

ASSAY SPECIFICITY

This kit recognizes native rat IgG in serum, plasma and cell culture supernatant samples.

SPECIES REACTIVITY

This kit recognizes rat IgG protein and cross reacts with hamster IgG.

Other species reactivity was determined by measuring 1 to 1 million diluted serum samples of various species, interpolating the protein concentrations from the rat IgG standard curve, and expressing the interpolated concentrations as a percentage of the protein concentration in rat serum assayed at the same dilution.

Reactivity < 0.3% was determined for the following species: Mouse, Guinea Pig, Rabbit, Dog, Goat, Pig, Cow, Human, Chicken

Hamster serum displays 71.4% cross-reactvity.

Notes

There are four classes of immunoglobulins in rat: IgA, IgE, IgM, and IgG. IgG is the most abundant immunoglobulin and is equally distributed in blood and tissue. In rat, the IgG class is further divided into four subclasses: IgG1, IgG2a, IgG2b, and IgG2c. The general immunoglobulin structure is composed of four polypeptide chains, two heavy and two light chains linked together and to each other by disulfide bonds, creating a tetrameric quaternary structure. The resulting tetramer creates two identical halves which together form a Y like structure. While the amino-terminal portions that exhibits highly variable amino-acid composition are involved in antigen binding, the C terminal constant parts are involved in complement binding, placental passage and binding to cell membrane.

IgG is involved in response to a foreign antigen and the presence of IgG usually signifies a mature antibody response. IgG has a molecular weight of about 150 kDa, can bind to many pathogens and also plays an important role in antibody dependent cell-mediated cytotoxicity. Typically rat

serum and plasma samples contain about 7 to 10 mg/ml of IgG.

Platform Microplate

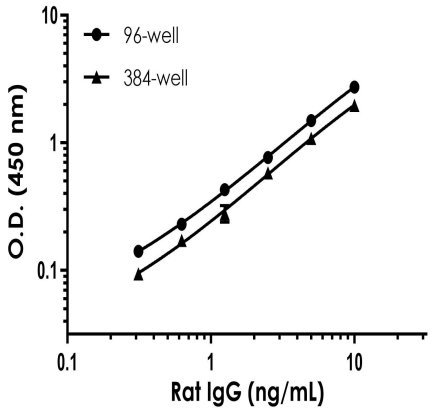
Properties

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

Components	1 x 96 tests	10 x 96 tests	1 x 384 tests
10X Rat IgG Capture Antibody	1 x 600µl	10 x 600µl	1 x 600µl
10X Rat IgG Detector Antibody	1 x 600µl	10 x 600µl	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 200ml	1 x 20ml
384 well CaptSure™ microplates	0 x 0 unit	0 x 0 unit	1 unit
Antibody Diluent 4B	1 x 6ml	10 x 6ml	1 x 6ml
Plate Seals	1 unit	10 units	1 unit
Rat IgG Lyophilized Purified Protein	2 vials	20 vials	2 vials
Sample Diluent NS (ab193972)	1 x 50ml	2 x 250ml	1 x 250ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	10 units	0 x 0 unit
Stop Solution	1 x 12ml	1 x 120ml	2 x 12ml
TMB Development Solution	1 x 12ml	1 x 120ml	2 x 12ml

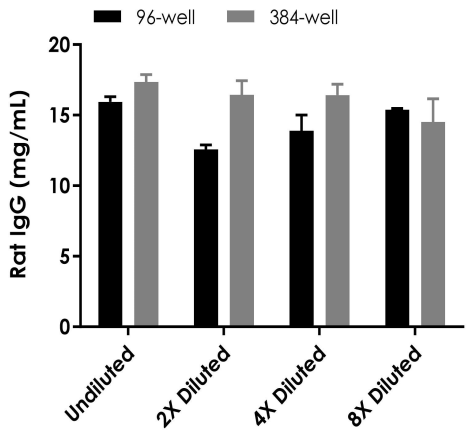
Cellular localization Secreted

Images



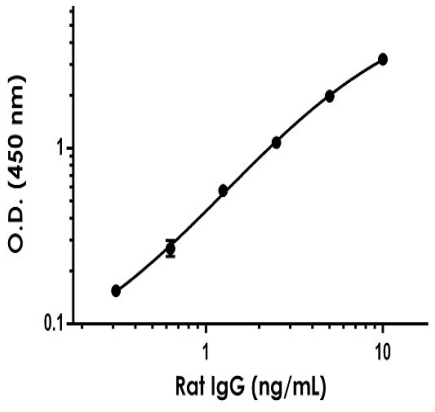
Example of rat IgG standard curve in Sample Diluent NS in 96-well vs. 384-well plate.

Example of rat IgG standard curve in 96-well vs. 384-well plate. Background-subtracted data values (mean +/- SD) are graphed.



Interpolated concentrations of rat IgG in serum in 96-well vs. 384-well plates.

Interpolated concentration of native IgG was measured in duplicate at different sample concentrations in 96-well vs. 384-well plates. Undiluted samples are 1:4,000,000 rat serum. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). Sample dilutions are made in Sample Diluent NS.



Example of rat IgG standard curve in Sample Diluent NS.

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

Standard Curve Measurements			
Conc. (ng/mL)	O.D. 450 nm 1	O.D. 450 nm 2	Mean O.D.
0	0.20	0.20	0.20
0.31	0.36	0.35	0.35
0.63	0.45	0.49	0.47
1.25	0.78	0.77	0.77
2.5	1.30	1.26	1.28
5	2.22	2.14	2.18
10	3.49	3.33	3.41
20	3.94	3.97	3.95

Standard curve

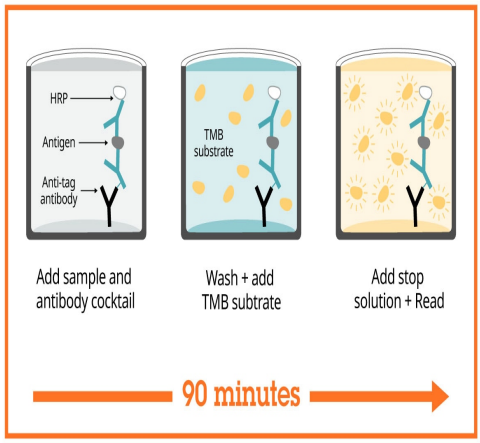
Example of rat IgG standard curve. The rat IgG standard curve was prepared as described. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.

Dilution Factor	Interpolated value	1: 1 Million diluted Rat Serum
Undiluted	ng/mL	14.6
	% Expected value	100.0
2	ng/mL	7.6
	% Expected value	103.8
4	ng/mL	3.4
	% Expected value	92.4
8	ng/mL	1.8
	% Expected value	99.6
16	ng/mL	1.0
	% Expected value	109.4
32	ng/mL	0.5
	% Expected value	111.9
64	ng/mL	0.2
	% Expected value	86.7

Linearity of dilution.

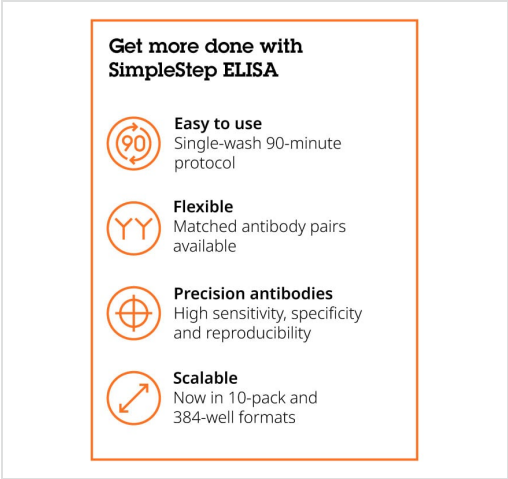
Native rat IgG was measured in the following biological samples in a 2fold dilution series. Sample dilutions are made in Sample Diluent NS.

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.



Sandwich ELISA - Rat IgG ELISA Kit (ab189578)

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.



Sandwich ELISA - Rat IgG ELISA Kit (ab189578)

To learn more about the advantages of SimpleStep ELISA® kits see **here**.

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