abcam

Product datasheet

Mouse Arginase 1 ELISA Kit ab269541

Recombinant SimpleStep ELISA

3 References 5 Images

Overview

Product name Mouse Arginase 1 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			4.1%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			4.7%

Sample type Serum, Cell Lysate, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 2.02 pg/ml

Range 7.81 pg/ml - 500 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	99	83% - 111%
Cell Lysate	111	106% - 118%
Hep Plasma	95	82% - 102%
EDTA Plasma	101	97% - 104%
Cit plasma	106	101% - 113%

Assay time 1h 30m

Assay duration One step assay

Species reactivity

Reacts with: Mouse

Product overview

Mouse Arginase 1 ELISA Kit (ab269541) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Arginase 1 protein in edta plasma, hep plasma, serum, cit plasma, and cell lysate. It uses our proprietary SimpleStep ELISA® technology. Quantitate Mouse Arginase 1 with 2.02 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

Arginase is a key element of the urea cycle involving the conversion of L-arginine to urea and L-ornithine, which is further metabolized into metabolites that drive collagen synthesis and bioenergetic pathways critical for cell proliferation. Arginine metabolism is a critical regulator of innate and adaptive immune responses, involved in an antimicrobial effector pathway carried out by polymorphonuclear granulocytes (PMN). During PMN apoptosis, arginine is depleted in the microenvironment leading to suppressed T cell and natural killer cell proliferation and cytokine secretion. Arginase also plays a key role in human sexual response in smooth muscle tissue.

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	1 x 96 tests
10X Mouse Arginase1 Capture Antibody	1 x 600µl	1 x 600µl
10X Mouse Arginase1 Detector Antibody	1 x 600µl	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 20ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml	1 x 10ml
Antibody Diluent CPR2	1 x 6ml	1 x 6ml

Components	1 x 96 tests	1 x 96 tests
Mouse Arginase1 Lyophilized Recombinant Protein	2 vials	2 vials
Plate Seals	1 unit	1 unit
Sample Diluent NS (ab193972)	1 x 50ml	1 x 50ml
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

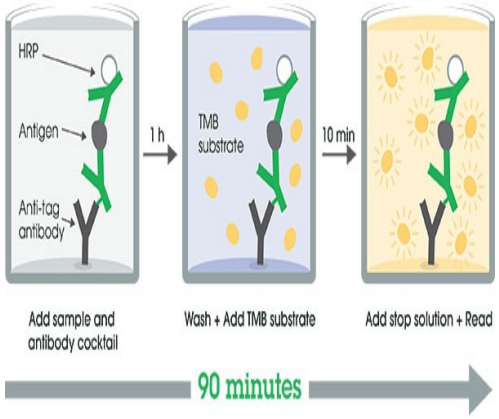
Pathway Nitrogen metabolism; urea cycle; L-ornithine and urea from L-arginine: step 1/1.

Involvement in disease Defects in ARG1 are the cause of argininemia (ARGIN) [MIM:207800]; also known as hyperargininemia. Argininemia is a rare autosomal recessive disorder of the urea cycle. Arginine is elevated in the blood and cerebrospinal fluid, and periodic hyperammonemia occurs. Clinical manifestations include developmental delay, seizures, mental retardation, hypotonia, ataxia, progressive spastic quadriplegia.

Sequence similarities Belongs to the arginase family.

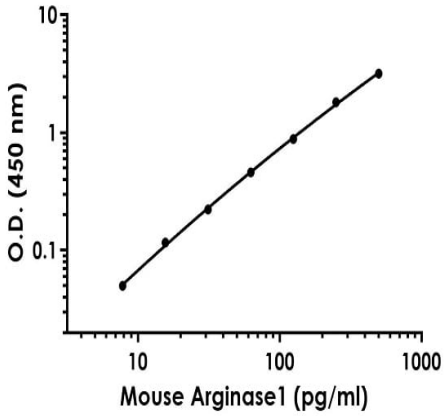
Cellular localization Cytoplasm.

Images



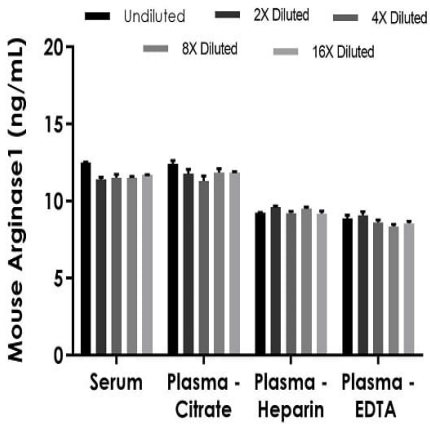
SimpleStep ELISA Protocol Diagram

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.



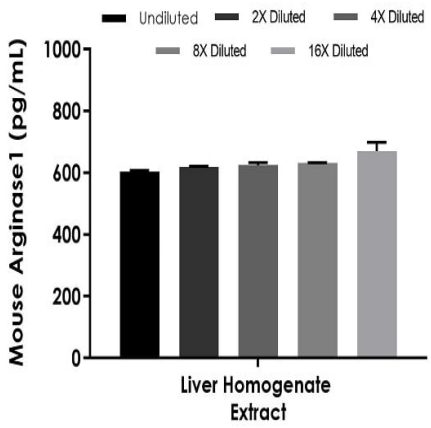
Example of mouse Arginase1 standard curve in Sample Diluent NS.

The Arginase1 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.



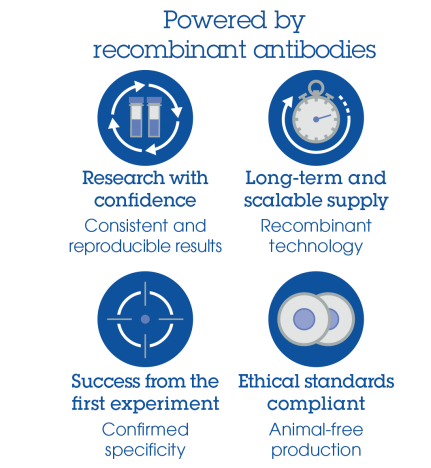
Interpolated concentrations of native Arginase1 in mouse serum and plasma samples.

The concentrations of Arginase1 were measured in duplicates, interpolated from the Arginase1 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1: 40, plasma (citrate) 1: 40, plasma (heparin) 1: 20, and plasma (EDTA) 1: 20. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Arginase1 concentration was determined to be 11.61 ng/mL in serum, 11.86 ng/mL in plasma (citrate), 9.37 ng/mL in plasma (heparin), and 8.70 ng/mL in plasma (EDTA).



Interpolated concentrations of native Arginase1 in mouse liver homogenate extract samples based on a 0.25 µg/mL extract load.

The concentrations of Arginase1 were measured in duplicate and interpolated from the Arginase1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Arginase1 concentration was determined to be 636.63 pg/mL in 0.25 µg/mL liver homogenate extract.



Sandwich ELISA - Mouse Arginase 1 ELISA Kit (ab269541)

To learn more about the advantages of recombinant antibodies see **here**.

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