

Rat Lipocalin-2 ELISA Kit ab239422

Recombinant SimpleStep ELISA[®]

1 References 5 Images

Overview

Product name Rat Lipocalin-2 ELISA Kit

Detection method Colorimetric

Precision					Intra-assay
	Sample	n	Mean	SD	CV%
	plasma	8			7%

					Inter-assay
	Sample	n	Mean	SD	CV%
	plasma	3			6.8%

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

Assay type Sandwich (quantitative)

Sensitivity 1.9 pg/ml

Range 7.81 pg/ml - 500 pg/ml

Recovery			Sample specific recovery
	Sample type	Average %	Range
	Cell culture supernatant	106	101% - 111%
	Urine	102	99% - 107%
	Serum	92	91% - 94%
	Cell culture media	90	87% - 93%
	Hep Plasma	101	98% - 103%
	EDTA Plasma	97	94% - 101%

Sample type	Average %	Range
Cit plasma	91	88% - 93%

Assay time

1h 30m

Assay duration

One step assay

Species reactivity

Reacts with: Rat

Product overview

Rat Lipocalin-2 ELISA Kit (ab239422) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Lipocalin-2 protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, serum, and urine. It uses our proprietary SimpleStep ELISA® technology. Quantitate Rat Lipocalin-2 with 1.9 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.

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
10X Rat Lipocalin-2 Capture Antibody	1 x 600µl
10X Rat Lipocalin-2 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 4BR	1 x 6ml
Plate Seals	1 unit
Rat Lipocalin-2 Lyophilized Recombinant Protein	2 vials
Sample Diluent NS (ab193972)	1 x 50ml

Components	1 x 96 tests
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

Function

Iron-trafficking protein involved in multiple processes such as apoptosis, innate immunity and renal development. Binds iron through association with 2,5-dihydroxybenzoic acid (2,5-DHBA), a siderophore that shares structural similarities with bacterial enterobactin, and delivers or removes iron from the cell, depending on the context. Iron-bound form (holo-24p3) is internalized following binding to the SLC22A17 (24p3R) receptor, leading to release of iron and subsequent increase of intracellular iron concentration. In contrast, association of the iron-free form (apo-24p3) with the SLC22A17 (24p3R) receptor is followed by association with an intracellular siderophore, iron chelation and iron transfer to the extracellular medium, thereby reducing intracellular iron concentration. Involved in apoptosis due to interleukin-3 (IL3) deprivation: iron-loaded form increases intracellular iron concentration without promoting apoptosis, while iron-free form decreases intracellular iron levels, inducing expression of the proapoptotic protein BCL2L11/BIM, resulting in apoptosis. Involved in innate immunity, possibly by sequestering iron, leading to limit bacterial growth.

Tissue specificity

Expressed in bone marrow and in tissues that are prone to exposure to microorganism. High expression is found in bone marrow as well as in uterus, prostate, salivary gland, stomach, appendix, colon, trachea and lung. Not found in the small intestine or peripheral blood leukocytes.

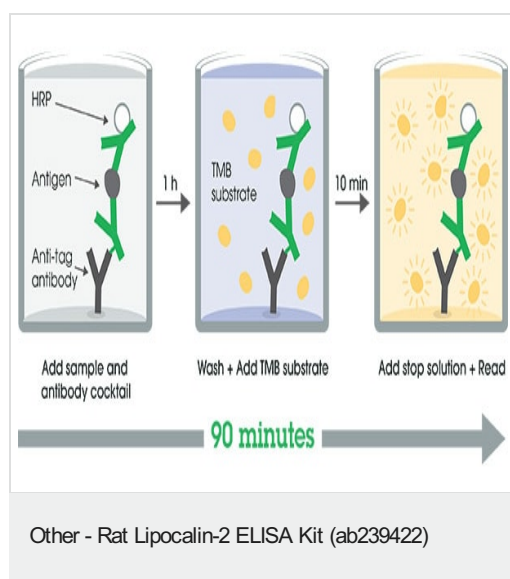
Sequence similarities

Belongs to the calycin superfamily. Lipocalin family.

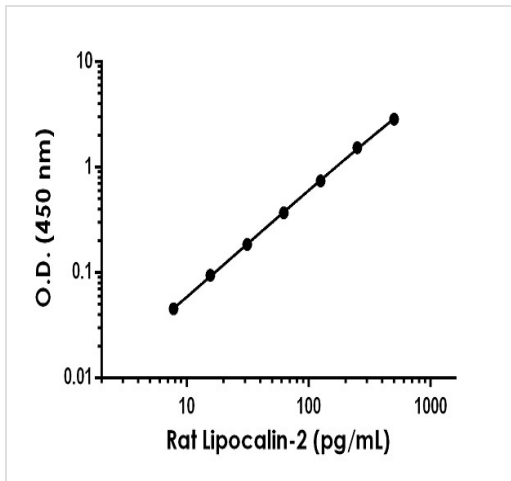
Cellular localization

Secreted. Upon binding to the SLC22A17 (24p3R) receptor, it is internalized.

Images

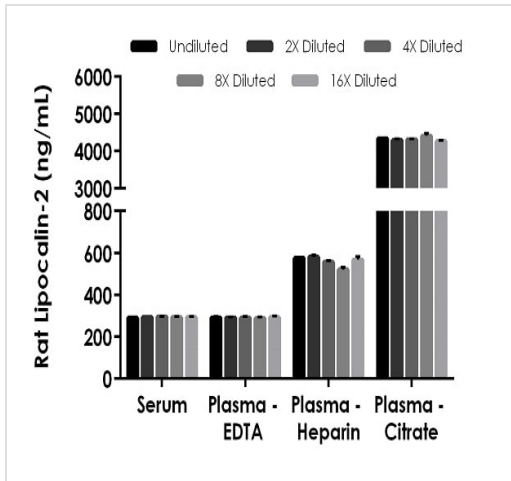


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



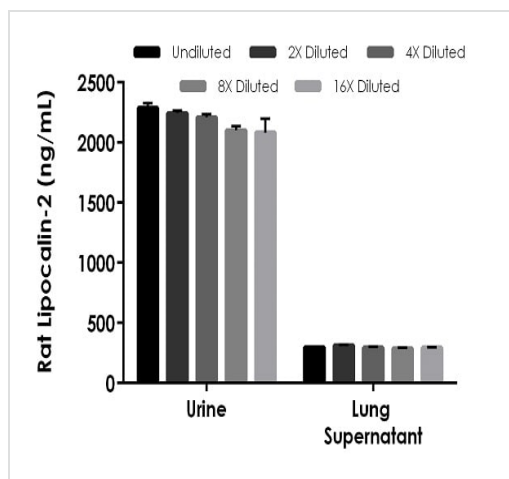
The Lipocalin-2 standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean \pm SD) are graphed.

Example of rat Lipocalin-2 standard curve in Sample Diluent NS.



The concentrations of Lipocalin-2 were measured in duplicates, interpolated from the Lipocalin-2 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:500, plasma (EDTA) 1:800, plasma (heparin) 1: 5,000 and plasma (citrate) 1: 13,333. The interpolated dilution factor corrected values are plotted (mean \pm SD, n=2). The mean Lipocalin-2 concentration was determined to be 293 ng/mL in serum, 290 ng/mL in plasma (EDTA), 560 ng/mL in plasma (heparin) and 4,326 ng/mL in plasma (citrate).

Interpolated concentrations of native Lipocalin-2 in rat serum and plasma samples.



Interpolated concentrations of native Lipocalin-2 in rat urine and lung supernatant samples.

The concentrations of Lipocalin-2 were measured in duplicates, interpolated from the Lipocalin-2 standard curves and corrected for sample dilution. Undiluted samples are as follows: urine 1:10,000 and lung cell culture supernatant 1: 400. The interpolated dilution factor corrected values are plotted (mean \pm SD, n=2). The mean Lipocalin-2 concentration was determined to be 2,184 ng/mL in urine and 297 ng/mL in lung supernatant.

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Sandwich ELISA - Rat Lipocalin-2 ELISA Kit
(ab239422)

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

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