

Product datasheet

Mouse Lipocalin-2 ELISA Kit (NGAL) α b199083

Recombinant SimpleStep ELISA[®]

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Overview

Product name Mouse Lipocalin-2 ELISA Kit (NGAL)

Detection method Colorimetric

Precision	Intra-assay				
	Sample	n	Mean	SD	CV%
	Serum	5			3.7%
	Inter-assay				
	Sample	n	Mean	SD	CV%
	Serum	3			6.1%

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

Assay type Sandwich (quantitative)

Sensitivity 1.1 pg/ml

Range 4.69 pg/ml - 300 pg/ml

Recovery	Sample specific recovery		
	Sample type	Average %	Range
	Urine	105	100% - 107%
	Serum	109	106% - 110%
	Cell culture media	104	102% - 107%
	EDTA Plasma	107	87% - 120%
	Cit plasma	109	98% - 116%
	serum free media	99	98% - 103%

Assay time	1h 30m
Assay duration	One step assay
Species reactivity	Reacts with: Mouse Does not react with: Goat, Cow, Pig
Product overview	<p>Mouse Lipocalin-2 ELISA Kit (NGAL) (ab199083) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Lipocalin-2 (NGAL) protein in cit plasma, serum, urine, edta plasma, and cell culture supernatant. It uses our proprietary SimpleStep ELISA® technology. Quantitate Mouse Lipocalin-2 (NGAL) with 1.1 pg/ml sensitivity.</p> <p>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:</p> <ul style="list-style-type: none"> - 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 <p>A 384-well SimpleStep ELISA® microplate (ab203359) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.</p>
Notes	Lipocalin-2 (also known as Neutrophil gelatinase-associated lipocalin or NGAL) is an iron binding and iron trafficking protein. Lipocalin-2 is involved in multiple cellular processes including apoptosis, innate immunity and renal development. Mice deficient in Lipocalin-2 appear normal but have increased susceptibility to bacterial infection. The bacteriostatic function may be related to Lipocalin-2 limiting bacterial iron supply. Mouse Lipocalin-2 has 81% and 62% protein sequence identity to rat and human Lipocalin-2, respectively.
Platform	Microplate (12 x 8 well strips)

Properties

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

Components	1 x 96 tests	10 x 96 tests
10X Mouse Lipocalin-2 Capture Antibody	1 x 600µl	1 x 6000µl
10X Mouse Lipocalin-2 Detector Antibody	1 x 600µl	1 x 6000µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 200ml
Antibody Diluent 5B	1 x 6ml	10 x 6ml
Mouse Lipocalin-2 Lyophilized Recombinant Protein	2 vials	2 x 10 vials
Plate Seals	1 unit	1 x 10 units

Components	1 x 96 tests	10 x 96 tests
Sample Diluent NS (ab193972)	1 x 50ml	2 x 250ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	1 x 10 units
Stop Solution	1 x 12ml	1 x 120ml
TMB Development Solution	1 x 12ml	1 x 120ml

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.

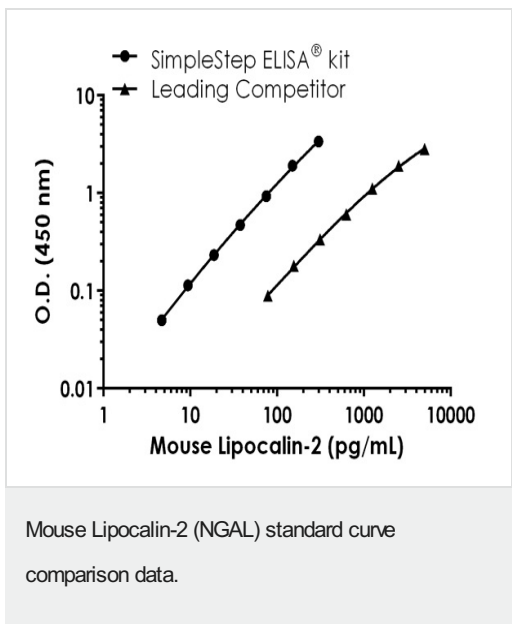
Sequence similarities

Belongs to the calycin superfamily. Lipocalin family.

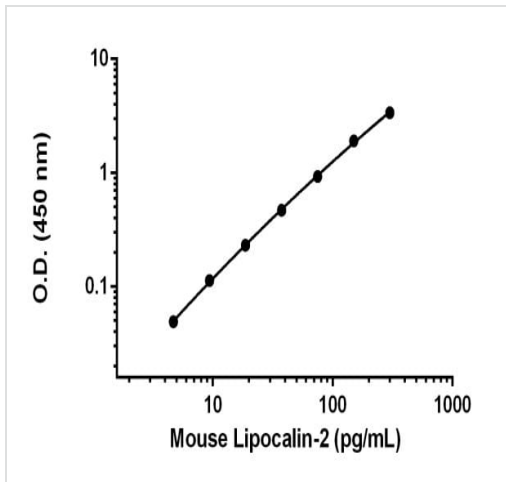
Cellular localization

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

Images

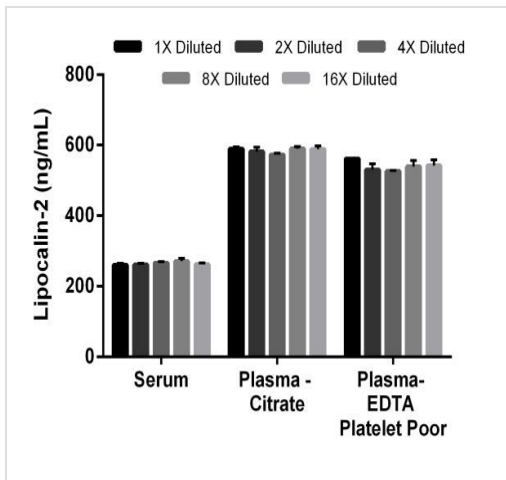


Standard curve comparison between mouse Lipocalin-2 (NGAL) SimpleStep ELISA[®] kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows a 7-fold increase in sensitivity.



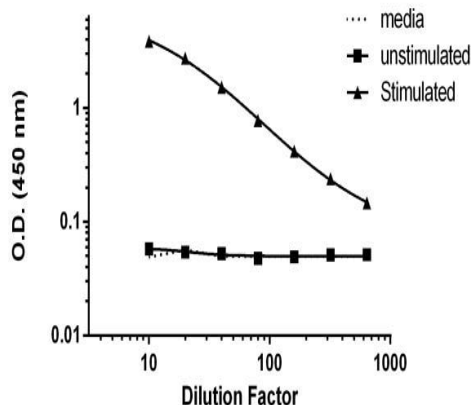
Background-subtracted data values (mean \pm SD) are graphed.

Example of Lipocalin-2 standard curve.



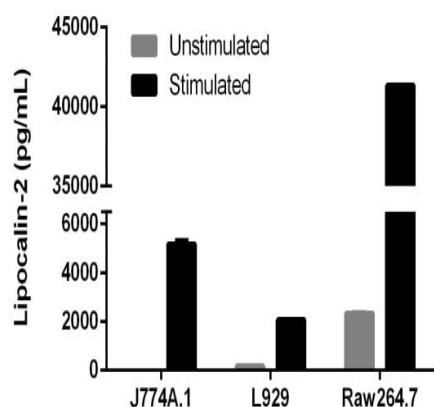
The concentrations of Lipocalin-2 were measured in duplicate and interpolated from the Lipocalin-2 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean Lipocalin-2 concentration was determined to be 265.2 ng/mL in mouse serum, 583.8 ng/mL in mouse plasma (Citrate), and 535.2 ng/mL in platelet poor mouse plasma (EDTA).

Interpolated concentrations of Lipocalin-2 in mouse serum, plasma (citrate), and platelet poor plasma (EDTA).



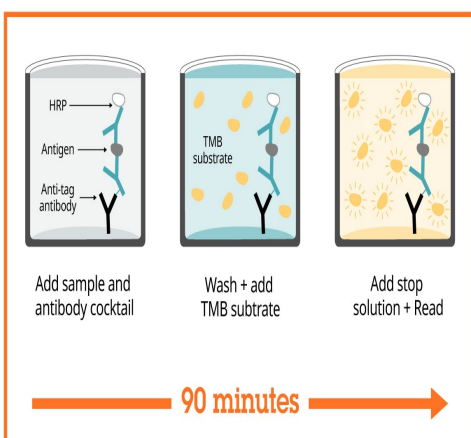
Comparison of secreted Lipocalin-2 in media, unstimulated and PMA/PHA-stimulated J774A.1 cells.

J774A.1 cells were grown in the absence (unstimulated) or presence of Phorbol Myristate Acetate (PMA) and phytohemagglutinin (PHA) (stimulated) for 3 days. Raw data from duplicate measurements are plotted (mean \pm SD, $n=2$).



Comparison of secreted Lipocalin-2 in mouse cell lines with or without stimulation.

L929 and J774A.1 cells were grown in the absence (unstimulated) or presence of Phorbol Myristate Acetate (PMA) and phytohemagglutinin (PHA) (stimulated) for 3 days. RAW264.7 were grown in the absence (unstimulated) or presence of LPS (stimulated) for 2 days. Cell Culture supernatant was diluted to within the range of the assay, 5-fold (L929 and J774A.1) or 2,000-fold (RAW264.7). Measured values were interpolated from the Lipocalin-2 Standard Curve diluted in Sample Diluent NS and corrected for dilution factor. Mean of duplicate values \pm SD are graphed. Lipocalin-2 was undetectable in media.



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 - Mouse Lipocalin-2 ELISA Kit (NGAL) (ab199083)

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

Sandwich ELISA - Mouse Lipocalin-2 ELISA Kit
(NGAL) (ab199083)

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

**Get more done with
SimpleStep ELISA**



Easy to use
Single-wash 90-minute protocol



Flexible
Matched antibody pairs available



Precision antibodies
High sensitivity, specificity and reproducibility



Scalable
Now in 10-pack and 384-well formats

Sandwich ELISA - Mouse Lipocalin-2 ELISA Kit
(NGAL) (ab199083)

To learn more about the advantages of SimpleStep ELISA[®] kits see [here](#).

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