

Human Lactate Dehydrogenase B / LDH-B ELISA Kit
ab183367

SimpleStep ELISA[®]

2 References 9 Images

Overview

Product name	Human Lactate Dehydrogenase B / LDH-B ELISA Kit			
Detection method	Colorimetric			
Precision	Intra-assay			
	Sample	n	Mean	SD
	HeLa extract	5		CV%
				1.9%
	Inter-assay			
	Sample	n	Mean	SD
	HeLa extract	3		CV%
				2.7%
Sample type	Cell culture supernatant, Serum, Tissue Extracts, Cell Lysate, Hep Plasma, EDTA Plasma, Cit plasma			
Assay type	Sandwich (quantitative)			
Sensitivity	8 pg/ml			
Range	0.312 ng/ml - 20 ng/ml			
Recovery	Sample specific recovery			

Sample type	Average %	Range
Serum	105	101% - 108%
Cell culture media	108	108% - 109%
Hep Plasma	104	102% - 105%
EDTA Plasma	110	107% - 115%
Cit plasma	110	107% - 114%

Sample type	Average %	Range
Extraction Buffer	98	97% - 100%

Assay time

1h 30m

Assay duration

One step assay

Species reactivity

Reacts with: Human

Product overview

Human Lactate Dehydrogenase B ELISA kit (ab183367) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of LDHB protein in human serum, plasma, cell culture supernatant, cell and tissue extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate human LDHB with 8 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.

Sensitivity:

Samples diluted in Sample Diluent NS - 8 pg/mL

Samples diluted in 1X Cell Extraction Buffer PTR - 212 pg/mL

Notes

Functional lactate dehydrogenase are homo or hetero tetramers composed of M and H protein subunits encoded by the LDH-A and LDH-B genes, respectively. The major isozymes of skeletal muscle and liver has four muscle (M) subunits; while the main isozymes for heart muscle contains four (H) subunits. The other variants contain both types of subunits. LDHB converts pyruvate to lactate under low oxygen conditions, while in the LDH-A converts lactate into pyruvate. Elevated levels of LDH indicate tissue breakdown in hemolysis. LDH can be used as a marker of myocardial infarction, peaking at days 3 and lasting through day 10. Other disorders indicated by elevated LDH include cancer, meningitis, encephalitis, acute pancreatitis, and HIV. Defects in LDHB are a cause of hereditary LDH-B deficiency; however LDH-B deficiency is usually asymptomatic.

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

Microplate

Properties

Storage instructions

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

Components	1 x 96 tests	1 x 96 tests
10X Human Lactate Dehydrogenase B / LDH-B Capture Antibody	1 x 600µl	1 x 600µl
10X Human Lactate Dehydrogenase B / LDH-B Detector Antibody	1 x 600µl	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml	1 x 10ml
Antibody Diluent CPI - HAMA Blocker (ab193969)	1 x 6ml	1 x 6ml
Human Lactate Dehydrogenase B / LDH-B 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

Fermentation; pyruvate fermentation to lactate; (S)-lactate from pyruvate: step 1/1.

Involvement in disease

Note=Defects in LDHB result in deficiency of lactate dehydrogenase, a condition with no clear symptomatic consequences. Lactate dehydrogenase deficiency can probably be considered a non-disease.

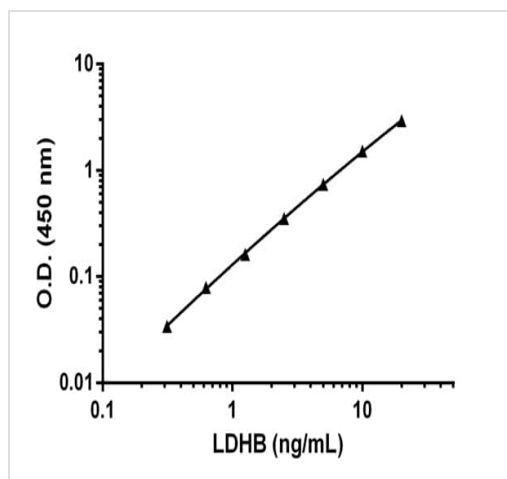
Sequence similarities

Belongs to the LDH/MDH superfamily. LDH family.

Cellular localization

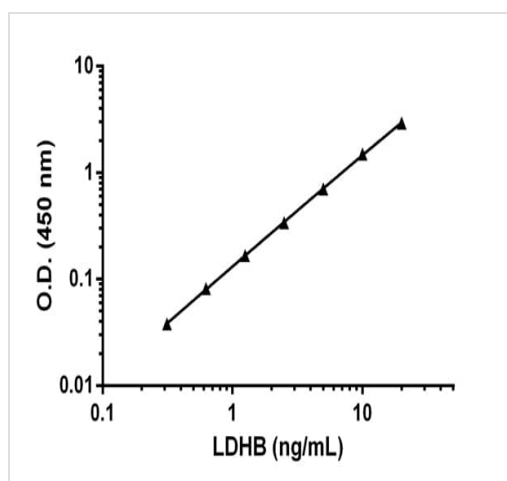
Cytoplasm.

Images



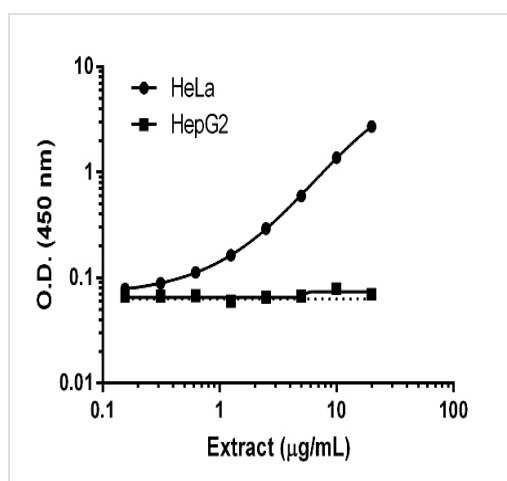
Background-subtracted data values (mean \pm SD) are graphed.

Example of LDHB standard curve diluted in 1X Cell Extraction PTR



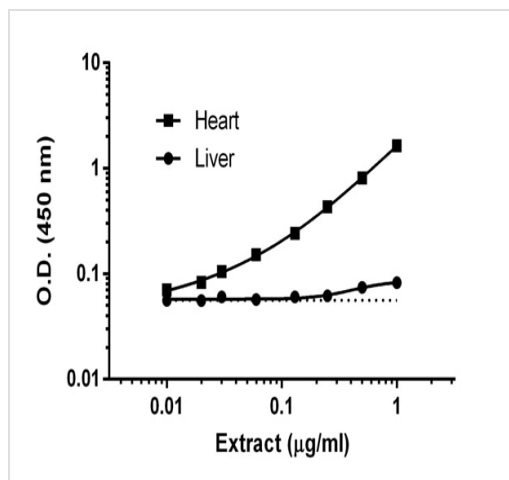
Background-subtracted data values (mean \pm SD) are graphed.

Example of LDHB standard curve diluted in NS



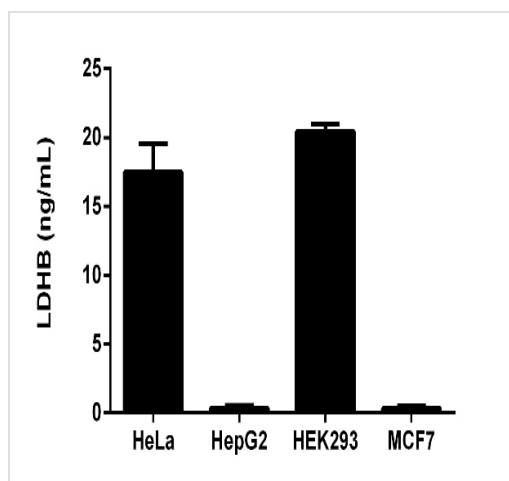
Raw data in duplicate measurements are plotted. Background is represented as the dotted black line.

Titration of HeLa and HepG2 extracts within the working range of the assay



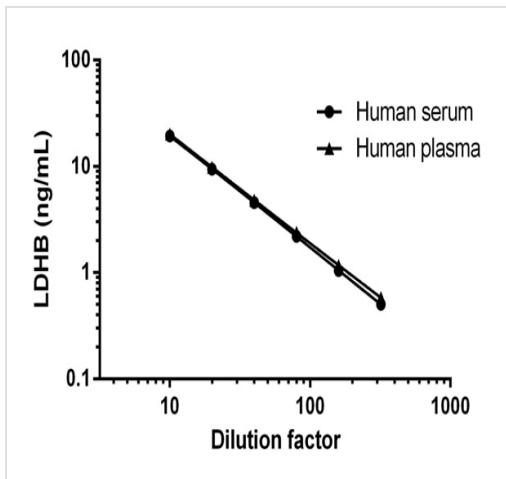
Raw data in duplicate measurements are plotted. Background is represented as the dotted black line.

Titration of Human Heart and Human Liver homogenate extracts within the working range of the assay



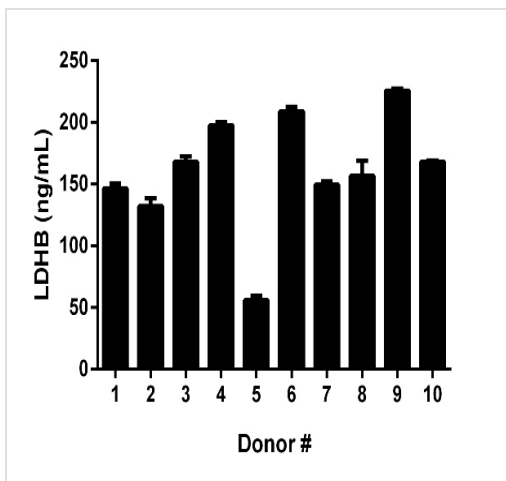
Interpolated values of LDHB are plotted for the indicated cell lines based on an extract load of 20 µg/mL.

Quantitation of LDHB expression in different cell lines



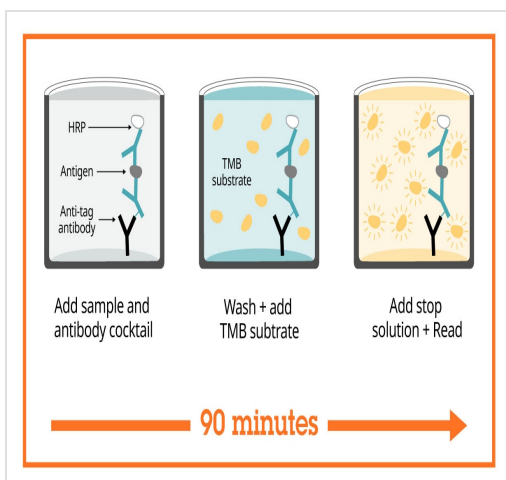
Interpolated concentrations of LDHB in Human serum and plasma titrations

The concentrations of LDHB were interpolated from the LDHB standard curve and corrected for sample dilution. The mean LDHB concentration was determined to be 197 ng/mL in plasma (heparin) and 173 ng/mL in serum.



Interpolated concentrations of LDHB in Human serum from 10 donors

Serum from 10 apparently healthy male donors was measured in triplicate for LDHB. The mean LDHB concentration was determined to be 161 ng/mL with a range of 56 – 226 ng/mL.



Sandwich ELISA - Human Lactate Dehydrogenase B / LDHB ELISA Kit (ab183367)

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.

**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

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

Sandwich ELISA - Human Lactate Dehydrogenase B
/ LDH-B ELISA Kit (ab183367)

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