

# L-Lactate Assay Kit (Colorimetric/Fluorometric) ab65330

★★★★★ [2 Abreviews](#) [239 References](#) [6 Images](#)

### Overview

<b>Product name</b>	L-Lactate Assay Kit (Colorimetric/Fluorometric)
<b>Detection method</b>	Colorimetric/Fluorometric
<b>Sample type</b>	Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids, Cell Lysate, Tissue Lysate
<b>Assay type</b>	Quantitative
<b>Sensitivity</b>	> 0.001 mM
<b>Range</b>	0.001 mM - 10 mM
<b>Assay time</b>	0h 40m
<b>Species reactivity</b>	<b>Reacts with:</b> Mammals, Other species
<b>Product overview</b>	L-Lactate Assay Kit (Colorimetric/Fluorometric) ab65330 provides a convenient means for detecting L(+)-Lactate in biological samples such as blood, cells, culture mediums, fermentation mediums, etc. There is no need for pretreatment or purification of samples.

In the lactate assay protocol, lactate specifically reacts with an enzyme mix to generate a product, which interacts with a lactate probe to produce color (570 nm) and fluorescence (at Ex/Em = 535/587 nm).

Lactate assay protocol summary:

- add samples (deproteinized) and standards to wells
- add reaction mix and incubate for 30 min at room temp
- analyze with microplate reader

**Notes** This product is manufactured by BioVision, an Abcam company and was previously called K607 Lactate Colorimetric/Fluorometric Assay Kit. K607-100 is the same size as the 100 test size of ab65330.

L(+)-Lactate is the major stereo-isomer of lactate formed in human intermediary metabolism and is present in blood. D(-)-Lactate is also present (see [D-Lactate assay kits](#)) but only at about 1-5% of the concentration of L(+)-Lactate.

Alternative L-Lactate assay kits offer different readout modes/wavelengths and sensitivity/range:

- this kit L-Lactate assay ab65330: colorimetric 570 nm, fluorometric Ex/Em 535/587 nm, range 0.001 mM - 10 mM
- our most popular [L-Lactate assay ab65331](#): colorimetric 450nm, range 0.02 mM - 10 mM
- [L-Lactate assay ab169557](#): fluorometric Ex/Em 535/587 nm, range 0.2 μM - 50 μM.

Review our [Metabolism Assay Guide](#) to learn about assays for metabolites, metabolic enzymes,

mitochondrial function, and oxidative stress, and also about how to assay metabolic function in live cells using your plate reader.

**Platform** Microplate reader

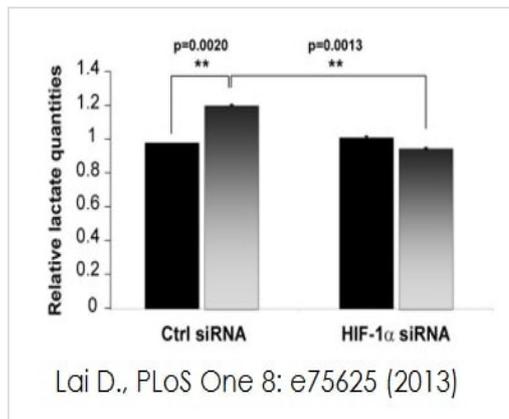
## Properties

**Storage instructions** Store at -20°C. Please refer to protocols.

Components	100 tests	2000 tests
Assay Buffer II	1 x 25ml	20 x 25ml
L(+)-Lactate Standard	1 x 100µl	20 x 100µl
Lactate Enzyme Mix	1 vial	20 vials
OxiRed Probe	1 x 200µl	20 x 200µl

**Relevance** Lactate ( $\text{CH}_3\text{CH}(\text{OH})\text{COO}^-$ ) plays important roles in many biological processes. Abnormal high concentration of lactate has been related to disease states such as diabetes and lactate acidosis, etc. L(+)-Lactate is the major stereoisomer of lactate formed in human intermediary metabolism and is present in blood. The lactate to pyruvate ratio reflects the redox state of the cell and describes the balance between  $\text{NAD}^+$  and  $\text{NADH}$ , which is dependent on the interconversion of lactate and pyruvate via lactate dehydrogenase (LDH).

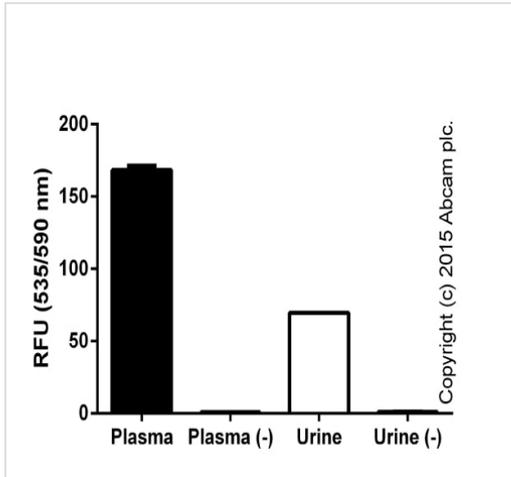
## Images



HaCaT cells are grown in normoxia for 3 days after infection and medium was tested to determine lactate concentration using L-Lactate assay kit (ab65330). HaCaT cells were infected with AdGFP-18E2 or AdGFP, transfected with Ctrl or HIF-1 $\alpha$  siRNA.

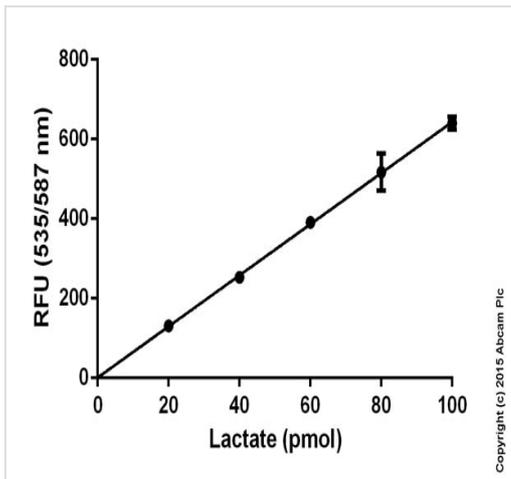
Functional studies - ab65330

Image from Lai D., PLoS One 8(9), Fig 6C. Doi: 10.1371/journal.pone.0075625. Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>



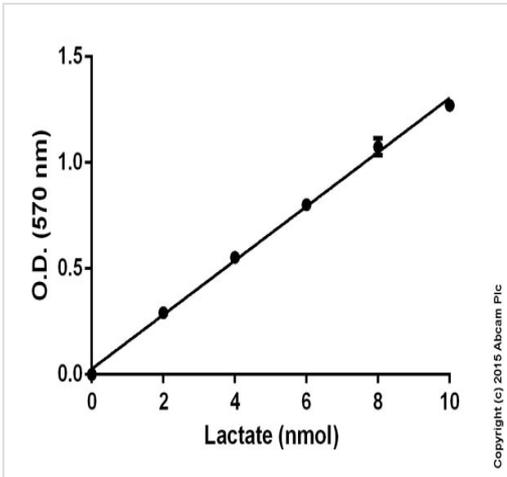
Relative signal (RFU) in unfiltered human plasma (dilution 1:200) and mouse urine (dilution 1:200), comparing L-lactate signals with background readings ((-); no enzyme) after 10 minutes of incubation (duplicates +/- SD).

Functional Assay: L-Lactate Assay Kit  
(Colorimetric/Fluorometric) (ab65330)



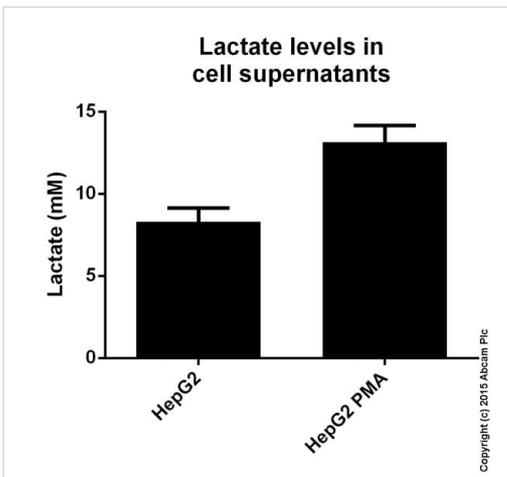
Standard curve: mean of duplicates (+/- SD) with background reads subtracted

Functional Studies - L-Lactate Assay Kit (ab65330)



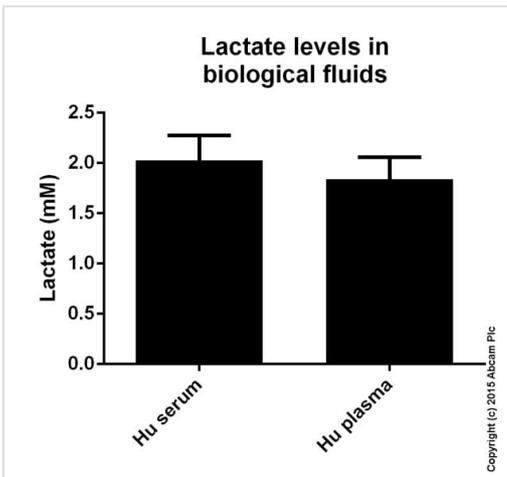
Standard curve: mean of duplicates (+/- SD) with background reads subtracted

Functional Studies - L-Lactate Assay Kit (ab65330)



Lactate measured in cell culture supernatants showing quantity ( $\mu\text{mol}$ ) per mL of tested sample. Samples were diluted 40-160 fold and measured fluorometrically.

Functional Studies - L-Lactate Assay Kit (ab65330)



Lactate measured in biological fluids showing quantity ( $\mu\text{mol}$ ) per mL of tested sample. Samples were diluted 10-40 fold and measured fluorometrically.

Functional Studies - L-Lactate Assay Kit (ab65330)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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