

## Product datasheet

# D-Lactate Assay Kit (Colorimetric) ab83429

1 References 5 Images

### Overview

<b>Product name</b>	D-Lactate Assay Kit (Colorimetric)
<b>Sample type</b>	Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids, Tissue Extracts
<b>Assay type</b>	Quantitative
<b>Sensitivity</b>	> 0.01 mM
<b>Range</b>	0.01 mM - 10 mM
<b>Assay time</b>	0h 40m
<b>Product overview</b>	Abcam's D-Lactate Assay Kit (Colorimetric) Kit provides a fast, easy way to accurately measure D-lactate in a variety of biological samples. In this kit, D-lactate is specifically oxidized by D-lactate dehydrogenase and generates proportional color ( $\lambda_{max} = 450 \text{ nm}$ ). The kit detects D-Lactate in samples such as serum, plasma, cells, culture and fermentation media. Visit our <a href="#">FAQs page</a> for tips and troubleshooting.
<b>Tested applications</b>	<b>Suitable for:</b> Functional Studies

### Properties

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

Components	Identifier	100 tests
D-Lactate Assay Buffer	WM	1 x 25ml
D-Lactate Enzyme Mix (Lyophilised)	Green	1 x 1ng
D-Lactate Substrate Mix (Lyophilised)	Red	1 vial
D-Lactate Standard (100 mM)	Yellow	1 x 100 $\mu$ l

**Relevance** D-Lactate production in mammals, mainly due to the glyoxalase pathway, is extremely low, with normal serum concentrations in the nano to micromolar range. Typically, elevated D-lactate levels which can rise to millimolar levels, are due to bacterial infection or short bowel syndrome in humans. Abnormally high concentrations of D-lactate are considered indicative of sepsis, ischemia or trauma. Due to slow metabolism and excretion, high D-lactate can cause acidosis and encephalopathy.

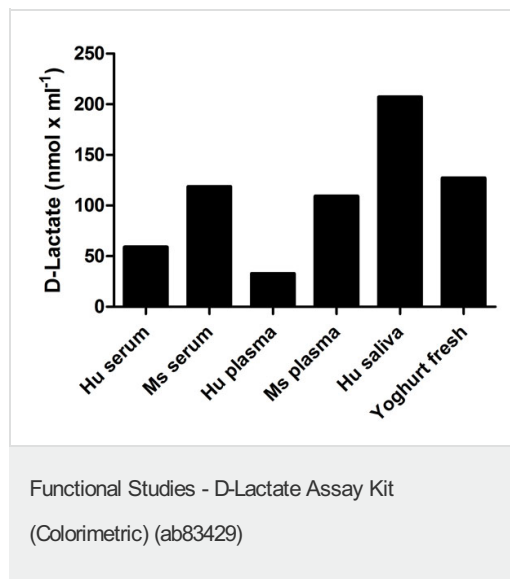
## Applications

Our [Abpromise guarantee](#) covers the use of **ab83429** in the following tested applications.

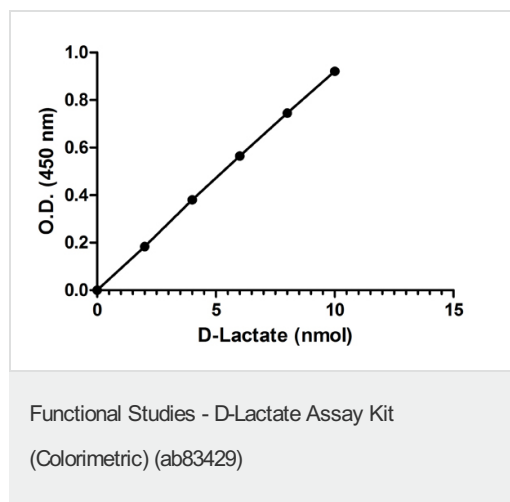
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Functional Studies		Use at an assay dependent dilution.

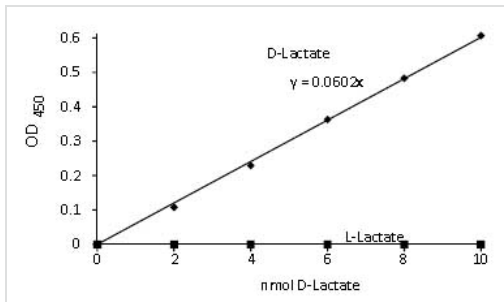
## Images



D-Lactate measured in human serum, plasma and saliva, mouse serum and plasma and fresh yoghurt showing quantity (nmol) per ml of tested sample. Samples were diluted 3-27 fold.

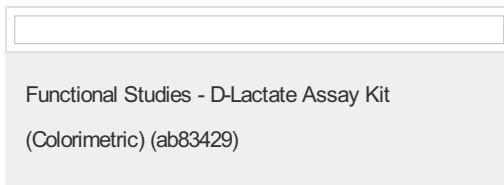


Colorimetric standard curve: mean of duplicates (+/- SD) with background reads subtracted.



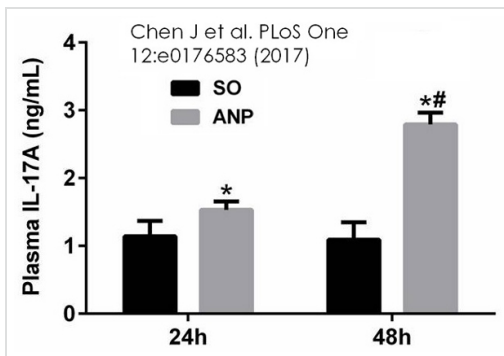
D-Lactate Standard Curve. The assay is performed according to the kit instruction. The assay specifically detects D-Lactate in the presence of up to 1000X L-Lactate.

Functional Studies - D-Lactate Colorimetric Assay Kit (ab83429)



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

Functional Studies - D-Lactate Assay Kit (Colorimetric) (ab83429)



Measurement of plasma D-lactate at 24h and 48h after ANP induction using ab83429.

To evaluate the severity of intestinal barrier dysfunction, plasma DAO and D-lactate were measured as indicators of intestinal mucosal mass and integrity which can reflect the extent of permeability and damage in the intestine.

Functional Studies - D-Lactate Assay Kit (Colorimetric) (ab83429)

Image from Chen J et al., PLoS One. 2017;12(4):e0176583. Fig 2(A); doi: 10.1371/journal.pone.0176583.

Compared with the SO groups D-lactate significantly increased in the ANP groups at 24h and 48h (all  $p < 0.05$ ). The ANP48h group had significantly higher levels of plasma D-lactate than those of the ANP24h group ( $p < 0.05$ , respectively).

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