

Product datasheet

D-Lactate Assay Kit (Colorimetric) ab83429

1 References 5 Images

Overview

Product name	D-Lactate Assay Kit (Colorimetric)
Sample type	Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids, Tissue Extracts
Assay type	Quantitative
Sensitivity	> 0.01 mM
Range	0.01 mM - 10 mM
Assay time	0h 40m
Product overview	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 FAQs page for tips and troubleshooting.
Tested applications	Suitable for: 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 Standard (100 mM)	Yellow	1 x 100µl
D-Lactate Substrate Mix (Lyophilised)	Red	1 vial

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.

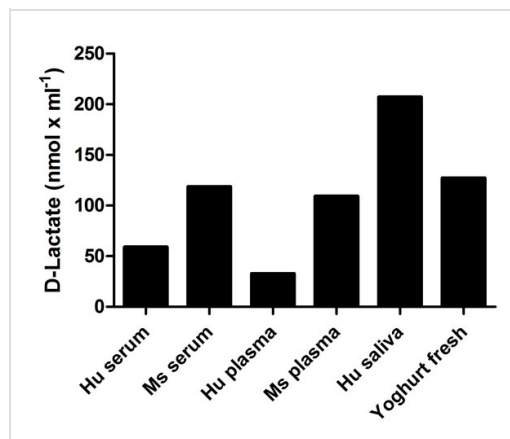
Applications

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.

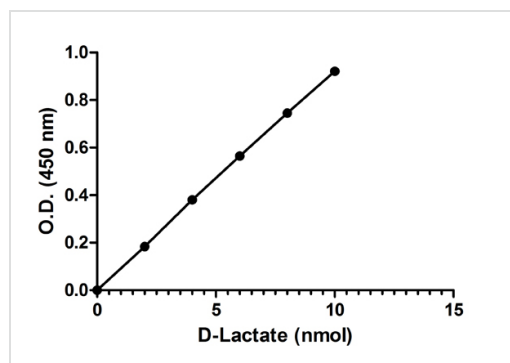
Application	Abreviews	Notes
Functional Studies		Use at an assay dependent dilution.

Images



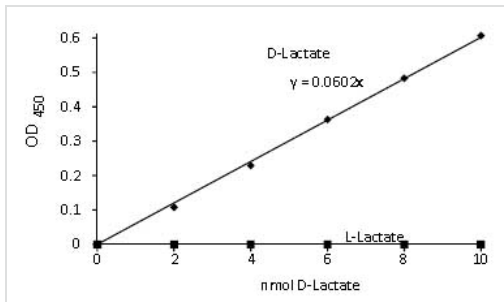
D-Lactate measured in human serum, plasma and saliva, mouse serum and plasma and fresh yoghurt showing quantity (nmol) per ml of tested sample. Samples were diluted 3-27 fold.

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



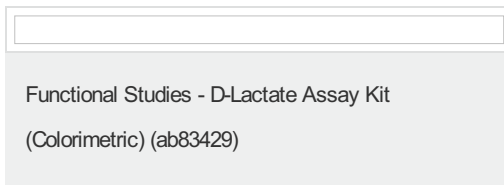
Colorimetric standard curve: mean of duplicates (+/- SD) with background reads subtracted.

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



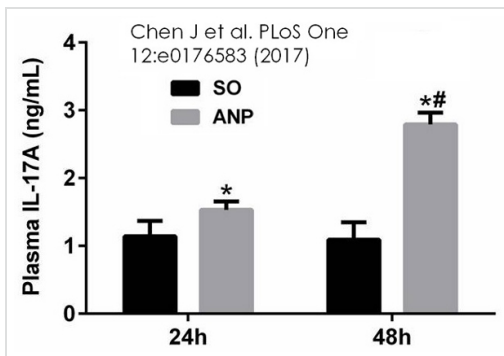
D-Lactate Standard Curve. The assay is performed according to the kit instruction. The assay specifically detects D-Lactate in the presence of up to 1000X L-Lactate.

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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