# D-Lactate Assay Kit (Colorimetric) ab83429

**Overview**

<table>
<thead>
<tr>
<th>Product name</th>
<th>D-Lactate Assay Kit (Colorimetric)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection method</td>
<td>Colorimetric</td>
</tr>
<tr>
<td>Sample type</td>
<td>Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids, Tissue Extracts</td>
</tr>
<tr>
<td>Assay type</td>
<td>Quantitative</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>&gt; 0.01 mM</td>
</tr>
<tr>
<td>Range</td>
<td>0.01 mM - 10 mM</td>
</tr>
<tr>
<td>Assay time</td>
<td>0h 40m</td>
</tr>
<tr>
<td>Product overview</td>
<td>D-Lactate Assay Kit (Colorimetric) Kit ab83429 provides a fast, easy way to accurately measure D-lactate in a variety of biological samples.</td>
</tr>
</tbody>
</table>

In the D-lactate assay protocol, D-lactate is specifically oxidized by D-lactate dehydrogenase and generates proportional color (λmax = 450 nm). The kit detects D-Lactate in samples such as serum, plasma, cells, culture and fermentation media.

D-lactate assay protocol summary:
- add reaction mix to sample and standard wells
- incubate for 30 min
- analyze with a microplate reader

**Notes**

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 reader

**Properties**

**Storage instructions**

Store at -20°C. Please refer to protocols.
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.

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.

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).

**Components**

<table>
<thead>
<tr>
<th>Components</th>
<th>Identifier</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Lactate Assay Buffer</td>
<td>WM</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>D-Lactate Enzyme Mix (Lyophilised)</td>
<td>Green</td>
<td>1 x 1ng</td>
</tr>
<tr>
<td>D-Lactate Substrate Mix (Lyophilised)</td>
<td>Red</td>
<td>1 vial</td>
</tr>
<tr>
<td>D-Lactate Standard (100 mM)</td>
<td>Yellow</td>
<td>1 x 100µl</td>
</tr>
</tbody>
</table>

**Relevance**

**Images**


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

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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.

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