CREATIVE BIOMART®
Assay Kit

D-Lactate Assay Kit

Product Information

Cat

Kit-0872

Common Name

D-Lactate

Cat.No. Kit-0872

Description

Glyoxalase II converts S-D-Lactoylglutathione and water into D-Lactate from the glyoxalase system pathway. The normal serum concentrations in mammals of D-Lactate are relatively low ranging in the nano to micromolar level. However during a bacterial infection in humans the serum concentration can rise to the millimolar range. High concentrations of D-lactate are indicative of ischemia, trauma or sepsis. The D-Lactate Assay Kit is based on the specifically oxidized D-lactate by D-Lactate dehydrogenase which exhibits an absorbance maximum at 490 nm. The intensity of the absorbance is proportional to the lactate concentration. Using a set of lactate standards, the assay can measure the concentration of lactate in samples (plasma, medium, or others) in a quantitative manner. The kit is stable until the expiration date of under proper storage and handling conditions. The product is for research only.

Applications

For biological research: D-Lactate measurement in biological samples
For drug/pharm research: Drug influence on D-Lactate metabolism

Storage

at -80°C

Shipping

Icepacks

Materials Required but Not Supplied

A plate reader capable of measuring absorbance between 470-490nm

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Adjustable pipettes and a repeat pipettor
A source of pure water; glass distilled water of HPLC-grade water is sufficient
0.5M Acetic Acid
Clear flat bottom 96-well plates if not included in the kit purchased

Detection method Colorimetric method at 490nm

Compatible Sample Types

Plasma,Serum,Cell culture supernatant, other body fluid

Preparation

1. D-Lactate Standards
The vial contains 1ml of 3mM D-Lactate Standard. The standard must be equilibrated to room temperature before use. 1ml of the standard is enough for making 3 standard curves if assayed in duplicate. Store at -80˚C.
2. D-Lactate Assay Solution
The solution contains enzymes that are light sensitive. The solution must be thawed on ice before use.Best to aliquot the amount needed and use it all to prevent thawing/freezing cycles. Freeze and store aliquots at -80 centigrade.

Assay Protocol

1. Sample Preparation
Serum/Plasma/other body fluid/cell culture supernatant
Serum, Plasma, other body fluid, or cell culture supernatant can be measured directly by a series of dilutions of the sample (1/2; 1/4; 1/8; ……) to ensure the readings are within the standard curve. Your samples can be diluted with dH2O.
Note: if samples (such as hemolyzed serum/plasma or cell culture medium which contain FBS) contain high level of lactate dehydrogenase capable of converting lactate to pyruvate, it is important for the samples to be deproteinated.
Solid Samples
Solid samples, such as tissues, can be first homogenized and extracted with ethanol (80%) with a tissues/Ethanol ratio of 1:8 (1 hr at 4°C) followed by centrifugation at 10,000xg. The clear supernatants then can be measured directly by a series of dilutions of the sample (1/2; 1/4; 1/8; ……)

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Adding Samples
Add 50μl of samples to each well.
We recommend that samples be assayed in duplicate.

Assay time
30 minutes
Analysis
D-Lactate(μM)= [(Corrected absorbance)-(y-intercept)]/slope
Sensitivity
60μM-3000μM

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