Overview

Useful For
An adjunct to urine D-lactate (preferred) for the diagnosis of D-lactate acidosis

Special Instructions
- Biochemical Genetics Patient Information

Method Name
Enzymatic

NY State Available
Yes

Specimen

Specimen Type
Plasma NaFl-KOx

Advisory Information
Urine is the preferred specimen for D-lactate determination, order DLAU / D-Lactate, Urine.

For determination of L-lactate (lactic acid), order LACS1 / Lactate, Plasma

Specimen Required
Collection Container/Tube: Sodium Fluoride/Potassium Oxalate Tube, 2 mL (T275)

Submission Container/Tube: Plastic vial

Specimen Volume: 1 mL

Collection Instructions: Centrifuge, aliquot plasma in plastic vial, and freeze immediately.

Specimen Minimum Volume
0.55 mL

Reject Due To

<table>
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<tr>
<th>Condition</th>
<th>Status</th>
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<tr>
<td>Gross lipemia</td>
<td>OK</td>
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<tr>
<td>Gross icterus</td>
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Specimen Stability Information

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<tr>
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<th>Temperature</th>
<th>Time</th>
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<td>Frozen (preferred)</td>
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Clinical and Interpretive

Clinical Information
D-lactate is produced by bacteria residing in the colon when carbohydrates are not completely absorbed in the small intestine. When large amounts of D-lactate are present, individuals can experience metabolic acidosis, altered mental status (from drowsiness to coma), and a variety of other neurologic symptoms, particularly dysarthria and ataxia.

D-lactic acidosis is typically observed in patients with a malabsorptive disorder, such as short-bowel syndrome, or following a jejunoileal bypass. In addition, healthy children presenting with gastroenteritis may also develop the critical presentation of D-lactic acidosis.

Routine lactic acid determinations in blood will not reveal abnormalities because most lactic acid assays measure only L-lactate. Accordingly, D-lactate analysis must be specifically requested (eg, this test). However, as D-lactate is readily excreted in urine, DLAU / D-Lactate, Urine is the preferred specimen for D-lactate determinations.

Reference Values
0.0-0.25 mmol/L

Interpretation
Increased levels are consistent with D-lactic acidosis. However, because D-lactate is readily excreted, urine determinations are preferred.

Cautions
The test performed was D-lactate. This is a product of bacterial overgrowth in the gastrointestinal tract. It should not be confused with L-lactate, which accumulates in some metabolic acidosis.

Clinical Reference

Performance

Method Description
D-lactate is oxidized to pyruvate in the presence of D-lactate dehydrogenase and nicotinamide adenine dinucleotide phosphate (NAD). The reaction proceeds because the pyruvate is continually removed as a pyruvate-hydrazone complex. The quantity of reduced NAD produced is directly proportional to the amount of D-lactate oxidized and is measured spectrophotometrically at 340 nm.(Brandt RB, Siegel SA, Waters MG, Bloch MH: Spectrophotometric assay for D-(-)-lactate in plasma. Anal Biochem.1980;102(1):39-46; Cowan T, Pasquali M: Laboratory investigations of inborn errors of metabolism. In: K Sarafoglou, GF Hoffman, KS Roth, eds. Pediatric Endocrinology and Inborn Errors of Metabolism. 2nd ed. McGraw-Hill Education; 2017;1139-1158)
No

**Day(s) and Time(s) Test Performed**

Varies

**Analytic Time**

4 days

**Maximum Laboratory Time**

8 days

**Specimen Retention Time**

1 month

**Performing Laboratory Location**

Rochester

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**Fees and Codes**

**Fees**

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact [Customer Service](#).

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

83605

**LOINC® Information**

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