Test Definition: DLAC
D-Lactate, P

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
| Gross hemolysis | OK |
| Gross lipemia   | OK |
| Gross icterus   | OK |

Specimen Stability Information

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<th>Temperature</th>
<th>Time</th>
<th>Special Container</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)

PDF Report
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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

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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