Test Definition: LPSBF

Lipase, Body Fluid

Overview

Useful For

Determining whether pancreatic inflammation or pancreatic fistula may be contributing to a pathological accumulation of fluid

Method Name

Enzymatic Colorimetric Reaction

NY State Available

No

Specimen

Specimen Type

Body Fluid

Necessary Information

1. Date and time of collection are required.

2. Specimen source is required.

Specimen Required

Specimen Type: Body fluid

Preferred Sources:

-Peritoneal fluid (peritoneal, abdominal, ascites, paracentesis)

-Pleural fluid (pleural, chest, thoracentesis)

-Drain fluid (drainage, Jackson Pratt [JP] drain)

-Pericardial

Acceptable Source: Write in source name with source location (if appropriate)

Collection Container/Tube: Sterile container

Submission Container/Tube: Plastic vial

Specimen Volume: 1 mL

Collection Instructions:

1. Centrifuge to remove any cellular material and transfer into a plastic vial.
2. Indicate the specimen source and source location on label.

Specimen Minimum Volume

0.5 mL

Reject Due To

Gross	Reject

hemolysis	
Gross lipemia	Reject
Gross icterus	Reject
Cerebrospinal fluid, feces, breast milk, saliva, nasal secretions, gastric secretions, bronchoalveolar lavage (BAL) or bronchial washings, sputum, synovial, colostomy/ostomy, urine, or vitreous fluid	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Body Fluid	Refrigerated (preferred)	7 days	
	Ambient	24 hours	
	Frozen	30 days	

Clinical & Interpretive

Clinical Information

Lipases are enzymes that hydrolyze glycerol esters of long-chain fatty acids and produce fatty acids and 2-acylglycerol. The pancreas is the primary source of serum lipase. Pancreatic injury results in increased serum lipase levels. Serum lipase is measured to aid in the diagnosis of pancreatitis.

Peritoneal fluid:
The digestive enzymes amylase and lipase can be measured in the identification of pancreatic fluid in the peritoneal cavity. Concentrations are expected to be elevated and at least several-fold times higher in fluid of pancreatic origin compared to simultaneous concentrations in serum.(1,2)

Drain fluid:
Lipase is expected to be elevated in drain fluids formed due to chronic pancreatitis or formation of a fistula following surgery.(1,3,4) Comparison to serum concentrations is recommended with elevations several-fold higher than blood being suggestive of the presence of pancreatic fluid in the drained cavity.(5)

Reference Values
An interpretive report will be provided.

Interpretation
Fluids (peritoneal, drain):
Lipase concentrations several-fold higher than serum lipase concentrations is suggestive of the presence of pancreatic fluid in the drained cavity.

All other fluids:
Body fluid lipase activity may become elevated due to the presence of pancreatic fluid in the drained cavity. Results should be interpreted in conjunction with serum lipase and other clinical findings.

Cautions
In very rare cases of gammopathy, in particular type IgM (Waldenstrom macroglobulinemia) may cause unreliable results.

Calcium dobesilate causes artificially low lipase results.

Clinical Reference
1. Block DR, Florkowski CM. Body Fluids. In: Rifai N, Horvath AR, Wittwer CT. eds. Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. 6th ed. Elsevier;2018:chap 43
2. Robert JH, Meyer P, Rohner A. Can serum and peritoneal amylase and lipase determinations help in the early prognosis of acute pancreatitis? Ann Surg. 1986;203(2):163-168. doi:10.1097/00000658-198602000-00009
3. Lipsett PA, Cameron JL. Internal pancreatic fistula. Am J Surg. 1992;163(2):216-220. doi:10.1016/0002-9610(92)90104-y
4. Kaman L, Behera A, Singh R, Katariya RN. Internal pancreatic fistulas with pancreatic ascites and pancreatic pleural effusions: recognition and management. ANZ J Surg. 200;71(4):221-225. doi:10.1046/j.1440-1622.2001.02077.x
5. Sileo AV, Chawla SK, LoPresti PA: Pancreatic ascites: Diagnostic importance of ascitic lipase. Am J Dig Dis. 1975 Dec;20(12):1110-1114. doi:10.1007/BF01070753
6. Nandakumar V, Dolan C, Baumann NA, et al. Effect of pH on the quantification of body fluid analytes for clinical diagnostic testing. Am J Clin Path. 2019; 152(1):S10-S11

Performance

Method Description
This is an enzymatic colorimetric assay with 1,2-O-dilauryl-rac-glycero-3-glutaric acid-(6-methyl-resorufin) ester as substrate. The chromogenic lipase substrate 1,2-O-dilauryl-rac-glycero-3-glutaric acid-(6-methylresorufin) ester is cleaved by the catalytic action of alkaline lipase solution to form 1,2-O-dilauryl-rac-glycerol and an unstable intermediate, glutaric acid-(6-methylresorufin) ester. This decomposes spontaneously in alkaline solution to form glutaric acid and methylresorufin. Addition of detergent and colipase increases the specificity of the assay for pancreatic lipase.

The color intensity of the red dye formed is directly proportional to the lipase activity and can be determined photometrically.(Package insert: LIPC, Lipase Colorimetric Assay. Roche Diagnostics; v12.0, 11/2015)

PDF Report
No

Day(s) Performed
Monday through Saturday

Report Available
Same day/1 to 2 days

Specimen Retention Time
7 days

Performing Laboratory Location
Mayo Clinic Jacksonville Clinical Lab

Fees & 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 account representative. For assistance, contact Customer Service.

Test Classification
This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the US Food and Drug Administration.

CPT Code Information
83690

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
LPSBF	Lipase, BF	15212-4

Result ID	Test Result Name	Result LOINC® Value
LPBF	Lipase, BF	15212-4
FLD7	Fluid Type, Lipase	14725-6