MAYO CLINIC LABORATORIES

Test Definition: PTFIB

PT-Fibrinogen, Plasma (Non-Orderable)

Overview

Useful For

Only orderable as a reflex. For more information see:
ALUPP / Lupus Anticoagulant Profile, Plasma
ALBLD / Bleeding Diathesis Profile, Limited, Plasma
AATHR / Thrombophilia Profile, Plasma and Whole Blood
APROL / Prolonged Clot Time Profile, Plasma
ADIC / Disseminated Intravascular Coagulation/Intravascular Coagulation and Fibrinolysis (DIC/ICF) Profile, Plasma

Detecting increased or decreased fibrinogen (factor I) concentration of acquired or congenital origin

Differentiating hypofibrinogenemia from dysfibrinogenemia

Method Name

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ALBLD / Bleeding Diathesis Profile, Limited, Plasma
AATHR / Thrombophilia Profile, Plasma and Whole Blood
APROL / Prolonged Clot Time Profile, Plasma
ADIC / Disseminated Intravascular Coagulation/Intravascular Coagulation and Fibrinolysis (DIC/ICF) Profile, Plasma

Optical Clot-Based

NY State Available

Yes

Specimen

Specimen Type

Plasma Na Cit

Specimen Required

Only orderable as a reflex. For more information see:
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ALBLD / Bleeding Diathesis Profile, Limited, Plasma
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Reject Due To

Gross hemolysis	Reject
Gross lipemia	Reject
Gross icterus	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Plasma Na Cit	Frozen	14 days	

Clinical & Interpretive

Clinical Information

Fibrinogen, also known as factor I, is a plasma protein that can be transformed by thrombin into a fibrin gel ("the clot"). Fibrinogen is synthesized in the liver and circulates in the plasma as a disulfide-bonded dimer of 3 subunit chains. The biological half-life of plasma fibrinogen is 3 to 5 days.

An isolated deficiency of fibrinogen may be inherited as an autosomal recessive trait (afibrinogenemia or hypofibrinogenemia) and is one of the rarest of the inherited coagulation factor deficiencies.

Acquired causes of decreased fibrinogen levels include acute or decompensated intravascular coagulation and fibrinolysis (disseminated intravascular coagulation), advanced liver disease, L-asparaginase therapy, and therapy with fibrinolytic agents (eg, streptokinase, urokinase, tissue plasminogen activator).

Fibrinogen function abnormalities, dysfibrinogenemias, may be inherited (congenital) or acquired. Patients with dysfibrinogenemia are generally asymptomatic. However, the congenital dysfibrinogenemias are more likely than the acquired to be associated with bleeding or thrombotic disorders. While the dysfibrinogenemias are generally not associated with clinically significant hemostasis problems, they characteristically produce a prolonged thrombin time clotting test. Congenital dysfibrinogenemias usually are inherited as autosomal codominant traits.

Acquired dysfibrinogenemias occur mainly in association with liver disease (eg, chronic hepatitis, hepatoma) or kidney diseases associated with elevated fibrinogen levels.

Fibrinogen is an acute-phase reactant, so a number of acquired conditions can result in an increase in its plasma level:
-Acute or chronic inflammatory illnesses
-Nephrotic syndrome
-Liver disease and cirrhosis
-Pregnancy or estrogen therapy
-Compensated intravascular coagulation
The finding of an increased level of fibrinogen in a patient with obscure symptoms suggests an organic rather than a functional condition. Chronically increased fibrinogen has been recognized as a risk factor for development of arterial and venous thromboembolism.

Reference Values

Only orderable as part of as a reflex. For more information see:
ALUPP / Lupus Anticoagulant Profile, Plasma
ALBLD / Bleeding Diathesis Profile, Limited, Plasma
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261-595 mg/dL
In normal full-term newborns and in healthy premature infants (30-36 weeks gestation), fibrinogen is near adult levels (>150) and remains at adult levels throughout childhood.

Interpretation
This test assesses the level of total clottable fibrinogen (see Cautions).

Cautions
Results may be affected by excess heparin (>1 U/mL), hemoglobin (>900 mg/dL), bilirubin (>45 mg/dL), or degradation products (fibrin or fibrinogen) in the plasma assayed.

Lipemia can interfere with this assay, causing an underestimation of the PT-Fibrinogen level. Therefore, results from lipemic specimens should be interpreted with caution.

Clinical Reference
Favaloro EJ, Lippi G. eds. Hemostasis and Thrombosis, Methods and Protocols. Humana Press 2017.

Performance

Method Description
The PT Fibrinogen assay is performed using the HemosIL PT-Fibrinogen kit on the Instrumentation Laboratory ACL TOP. Prothrombin Time (PT) thromboplastin reagent is added to patient plasma; endogenous thrombin from the patient's plasma is generated during the reaction and converts fibrinogen to fibrin. This change from fibrinogen to fibrin is monitored by the instrument through reading the light absorbance over a set amount of time. At the end of the allotted time, the instrument uses a set algorithm to determine the delta and plot it against the calibration curve. The delta value is directly proportional to the amount of fibrinogen in the sample.(Package insert: HemosIL PT Fibrinogen. Instrumentation Laboratory Company; 01/2016)

PDF Report
No

Day(s) Performed
Monday through Friday

Report Available
1 day

Specimen Retention Time

7 days

Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Main Campus

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 cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

85385

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
PTFIB	PT-Fibrinogen, P	3255-7

Result ID	Test Result Name	Result LOINC® Value
PTFIB	PT-Fibrinogen, P	3255-7