MAYO CLINIC LABORATORIES

Test Definition: ADIC

Disseminated Intravascular Coagulation/Intravascular Coagulation and Fibrinolysis (DIC/ICF) Profile, Plasma

Overview

Useful For

Establishing laboratory evidence of disseminated intravascular coagulation

Profile Information

Test Id	Reporting Name	Available Separately	Always Performed
ADICI	DIC/ICF Prof Interpretation	No	Yes
APTSC	Activated Partial Thrombopl Time, P	Yes, (order APTTP)	Yes
TTSC	Thrombin Time (Bovine), P	Yes	Yes
CLFIB	Fibrinogen, Clauss, P	Yes, (order FIBTP)	Yes
DIMER	D-Dimer, P	Yes, (order DDITT)	Yes
PTSC	Prothrombin Time (PT), P	Yes, (order PTTP)	Yes

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
RTSC	Reptilase Time, P	Yes	No
DRV1	Dilute Russells Viper Venom Time, P	Yes, (order DRVI1)	No
PNP	Platelet Neutralization Procedure	No	No
PTMSC	PT Mix 1:1	No	No
APMSC	APTT Mix 1:1	No	No
DRV2	DRVVT Mix	No	No
DRV3	DRVVT Confirmation	No	No
F_2	Coag Factor II Assay, P	Yes	No
FACTV	Coag Factor V Assay, P	Yes	No
F_7	Coag Factor VII Assay, P	Yes	No
F8A	Coag Factor VIII Activity Assay, P	Yes	No
F_9	Coag Factor IX Assay, P	No	No
F_10	Coag Factor X Assay, P	Yes	No
F_11	Coag Factor XI Assay, P	Yes	No
F_12	Coag Factor XII Assay, P	Yes	No
PTFIB	PT-Fibrinogen, P	Yes	No
SOLFM	Soluble Fibrin Monomer	No	No

HEXLA	HEX LA, P	No	No

Testing Algorithm

Initial testing includes prothrombin time (PT), activated partial thromboplastin time (aPTT), thrombin time (TT), fibrinogen, D-dimer, and disseminated intravascular coagulation/intravascular coagulation and fibrinolysis (DIC/ICF) profile interpretation.

If the PT is greater than 13.9 seconds, then the PT mix will be performed at an additional charge.

If the aPTT is 38 seconds or more, then the aPTT mix and dilute Russell's viper venom time (dRVVT) will be performed at an additional charge.

If the dRVVT ratio is 1.20 or more, then the dRVVT mix and dRVVT confirmation will be performed at an additional charge.

If fibrinogen is less than 150 mg/dL, or clinically indicated, then the PT-fibrinogen test will be performed at an additional charge.

If D-dimer is greater than 500 ng/mL fibrinogen equivalent units, then soluble fibrin monomer test will be performed at an additional charge.

If the aPTT mix is 38 or more seconds and the TT is less than 35.0 seconds (no evidence of heparin), then the platelet neutralization procedure will be performed at an additional charge.

If the TT is 25.0 or more seconds, then the reptilase time will be performed at an additional charge.

If appropriate, PT-fibrinogen, coagulation factor assays, or hexagonal lupus anticoagulant testing will be performed, at an additional charge, to clarify a significant abnormality in the screen test results.

Special Instructions

- Coagulation Guidelines for Specimen Handling and Processing
- Coagulation Patient Information
- Coagulation Profile Comparison

Method Name

PTSC, APTSC, TTSC: Optical Clot-Based
CLFIB: Clauss
DIMER: Latex Immunoassay (LIA)
ADICI: Medical Interpretation

NY State Available

Yes

Specimen

Specimen Type
Plasma Na Cit

Ordering Guidance
This profile will not detect all bleeding disorders, such as von Willebrand disease. For patients with amyloidosis and bleeding symptoms, obtaining a limited bleeding diathesis profile is suggested.

Multiple coagulation profile tests are available. See Coagulation Profile Comparison for testing that is performed with each profile.

Shipping Instructions
Send the 5 aliquot tubes in the same shipping container.

Specimen Required
Specimen Type: Platelet-poor plasma
Patient Preparation: Patient **should not** be receiving warfarin or heparin therapy. If so, note on request.
Collection Container/Tube: Light-blue top (3.2% sodium citrate)
Submission Container/Tube: 5 Plastic vials
Specimen Volume: 5 mL Platelet-poor plasma in 5 plastic vials, each containing 1 mL
Collection Instructions:
1. For complete instructions, see Coagulation Guidelines for Specimen Handling and Processing.
2. Centrifuge, transfer all plasma into a plastic vial, and centrifuge plasma again.
3. Aliquot plasma (1 mL per aliquot) into 5 separate plastic vials, leaving 0.25 mL in the bottom of centrifuged vial.
4. Immediately freeze plasma (no longer than 4 hours after collection) at -20 degrees C or, ideally -40 degrees C or below.
Additional Information: Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Forms
1. Coagulation Patient Information (T675)
2. If not ordering electronically, complete, print, and send a Coagulation Test Request (T753) with the specimen.

Specimen Minimum Volume
See Specimen Required

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

Disseminated intravascular coagulation (DIC) and intravascular coagulation and fibrinolysis (ICF), collectively termed DIC/ICF, is a consumptive hemorrhagic and microthrombotic disorder that manifests as clinical bleeding or thrombosis. Conditions associated with DIC/ICF can include sepsis, trauma (eg, head injury, severe tissue injury), obstetric complications (eg, amniotic fluid embolism, abruptio placentae), malignancies, vascular disorders (eg, hemangiomas, aortic aneurysm), and immunologic disorders.

These disorders can cause thrombin and fibrin intravascular formation, which can result in widespread fibrin deposition contributing to thrombosis and organ failure or, conversely, can result in bleeding due to consumption of coagulation proteins and platelets. DIC/ICF is not a disease, rather it is a syndrome that is secondary to an underlying disorder.

Reference Values

An interpretive report is provided.

Interpretation

An interpretive report will be provided when testing is completed, noting presence or absence of disseminated intravascular coagulation and intravascular coagulation and fibrinolysis.

Cautions

No significant cautionary statements

Clinical Reference

1. Boender J, Kruip MJ, Leebeek FWG. A diagnostic approach to mild bleeding disorders. J Thromb Haemost. 2016;14(8):1507-1516. doi:10.1111/jth.13368
2. Favaloro EJ, Lippi G. eds. Hemostasis and Thrombosis, Methods and Protocols. Humana Press; 2017

Performance

Method Description

Prothrombin Time:

The prothrombin time (PT) assay is performed on the Instrumentation Laboratory ACL TOP. Patient plasma is incubated and combined with a PT reagent containing recombinant human tissue factor, synthetic phospholipids, calcium chloride, polybrene, and buffer. Tissue thromboplastin (phospholipid and recombinantly-derived human tissue factor) and calcium are added to citrated plasma, bypassing the action of platelets and factors VIII, IX, XI, and XII in the intrinsic procoagulant pathway. The tissue thromboplastin-factor VII/VIIa complex activates factor X. Activated factor X (factor Xa) forms a complex with factor Va, calcium, and phospholipid to activate factor II (prothrombin) to thrombin. Thrombin then acts on fibrinogen (factor I) to form fibrin, which clots, providing the assay endpoint (the "prothrombin time").(Package insert: HemosIL RecombiPlasTin 2G. Instrumentation Laboratory Company; R4, 03/2019)

Activated Partial Thromboplastin Time:
The activated partial thromboplastin time (aPTT) assay is performed on the Instrumentation Laboratory ACL TOP. Patient plasma is combined and incubated with an aPTT reagent containing phospholipid, a negatively charged contact factor activator, and buffer. After a specified incubation time, calcium is added to trigger the coagulation process in the mixture. Subsequently, the time to clot formation is measured optically using a wavelength of 671 nm. Mixing studies (see APMSC / Activated Partial Thromboplastin Time [APTT] Mix 1:1, Plasma) using normal pooled plasma are performed on samples with a prolonged aPTT to assist in discriminating between factor deficiency states and coagulation inhibitors, unless further testing is not indicated.(Package insert: HemosIL SynthASil. Instrumentation Laboratory Company; R11, 06/2017)

Thrombin Time:
The thrombin time (TT) assay is performed on the Instrumentation Laboratory ACL TOP. Patient plasma is combined with a bovine thrombin reagent containing bovine albumin, calcium chloride, and buffer, immediately triggering the coagulation process in the mixture. Time to clot formation is measured optically using a wavelength of 405 nm.(Package insert: HemosIL Thrombin Time. Instrumentation Laboratory Company; R1, 12/2018)

Fibrinogen:
The Clauss fibrinogen assay is performed using the HemosIL Fibrinogen-C kit on the Instrumentation Laboratory ACL TOP. Patient plasma, containing fibrinogen, is mixed with reagent containing excess thrombin. The excess thrombin converts the fibrinogen in the patient plasma to fibrin. The amount of time it takes to form a clot is inversely proportional to the amount of fibrinogen present in the patient plasma.(Package insert: HemosIL Fibrinogen-C. Instrumentation Laboratory Company; R7, 06/2017)

D-Dimer:
The D-dimer assay is performed using the HemosIL D-Dimer HS 500 kit on the Instrumentation Laboratory ACL TOP instrument. D-dimer is assayed in plasma by adding polystyrene latex particles coated with monoclonal antibodies specific for D-dimer domain. The latex particles agglutinate in the presence of soluble fibrin degradation products containing the D-dimer domain. The degree of agglutination is directly proportional to the concentration of D-dimer in the sample and is determined by measuring the decrease of transmitted light caused by the aggregates (turbidimetric immunoassay).(Package insert: HemosIL D-Dimer HS 500. Instrumentation Laboratory Company; R6, 12/2024)

PDF Report
No

Day(s) Performed
Monday through Friday

Report Available
1 to 7 days

Specimen Retention Time
See individual test IDs

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
See Individual Test IDs

CPT Code Information
85610-PTSC
85730-APTSC
85670-TTSC
85379-DIMER
85384-CLFIB
85390-26-ADICI
85210-Factor II (if appropriate)
85220-Factor V (if appropriate)
85230-Factor VII (if appropriate)
85240-Coagulation factor VIII assay (if appropriate)
85250-Factor IX (if appropriate)
85260-Factor X (if appropriate)
85270-Factor XI (if appropriate)
85280-Factor XII (if appropriate)
85366-Soluble fibrin monomer (if appropriate)
85385-PT-Fibrinogen (if appropriate)
85597-Platelet neutralization for lupus inhibitor (if appropriate)
85598-Hex LA (if appropriate)
85611-PT mix 1:1 (if appropriate)

85613-DRVVT (if appropriate)
85613-DRVVT mix (if appropriate)
85613-DRVVT confirm (if appropriate)
85635-Reptilase time (if appropriate)
85732-APTT mix 1:1 (if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
ADIC	DIC/ICF Prof	98125-8

Result ID	Test Result Name	Result LOINC® Value
APTSC	Activated Partial Thrombopl Time, P	14979-9
CLFIB	Fibrinogen, Clauss, P	48664-7
TTSC	Thrombin Time (Bovine), P	46717-5
603323	Reviewed by	18771-6
603182	DIC/ICF Prof Interpretation	69049-5
DIMER	D-Dimer, P	In Process
INRSC	INR	6301-6
PTSEC	Prothrombin Time (PT), P	5902-2