MAYO CLINIC LABORATORIES

Test Definition: RTSC

Reptilase Time, Plasma

Overview

Useful For

Evaluation of a prolonged thrombin time (TT): It is mainly used to confirm or exclude the presence of heparin in the specimen or specimen type

Evaluating hypofibrinogenemia or dysfibrinogenemia in conjunction with the TT and fibrinogen assay

Special Instructions

- Coagulation Guidelines for Specimen Handling and Processing

Method Name

Optical Clot-Based

NY State Available

Yes

Specimen

Specimen Type

Plasma Na Cit

Specimen Required

Specimen Type: Platelet-poor plasma
Collection Container/Tube: Light-blue top (citrate)
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions:
1. For complete instruction, see Coagulation Guidelines for Specimen Handling and Processing.
2. Centrifuge, remove plasma, and centrifuge plasma again.
3. Freeze plasma immediately (no longer than 4 hours after collection) at -20 degrees C or, ideally below -40 degrees C.
Additional Information:
1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.
2. Each coagulation assay requested should have its own vial.

Forms

If not ordering electronically, complete, print, and send a Coagulation Test Request (T753) with the specimen.

Specimen Minimum Volume

0.5 mL

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

Prolonged clotting times may be associated with a wide variety of coagulation abnormalities including:
-Deficiency or functional abnormality (congenital or acquired) of any of the coagulation proteins
-Deficiency or functional abnormality of platelets
-Specific factor inhibitors
-Acute disseminated intravascular coagulation
-Exogenous anticoagulants (eg, heparin, warfarin)

The prothrombin time (PT) and activated partial thromboplastin time (APTT) are first-order tests for coagulation abnormalities and are prolonged in many bleeding disorders. A battery of coagulation tests is often required to determine the cause of prolonged clotting times. The thrombin time (TT) test is used to identify the cause of prolonged APTT or dilute Russell viper venom time (DRVVT). Reptilase time (RT) test is used to evaluate a prolonged TT.

Reptilase is a thrombin-like enzyme isolated from the venom of *Bothrops atrox*. Thrombin splits small fibrinopeptides A and B from fibrinogen molecules, producing fibrin monomer, which polymerizes to form a clot. Reptilase, however, splits off fibrinopeptide A but not B, which results in fibrin polymerization. In contrast to thrombin and the TT test which are inhibited by heparin, the RT is normal in the presence of heparin. Similar to the TT test, the RT is prolonged in the presence of hypofibrinogenemia and dysfibrinogenemia.

Reference Values

14.0-23.9 seconds

Interpretation

As seen in the following table, reptilase time can help distinguish among the various causes of a prolonged thrombin time (TT).

Thrombin Time	Reptilase Time	Causes	Remarks
Prolonged	Prolonged	Hypo- or afibrinogenemia	Ascertain by determination of fibrinogen

Prolonged	Prolonged	Dysfibrinogenemia	Ascertain by specific assay
Prolonged	Normal	Heparin or inhibitor of thrombin	Differentiate by human TT and/or heparin assays
Prolonged	Prolonged	Fibrin(ogen) split products (FSP)	Ascertain by FSP or D-dimer assay

Cautions
The reptilase time test has limited diagnostic value when ordered as a stand-alone test.

Clinical Reference
Favaloro EJ, Lippi G, eds. Hemostasis and Thrombosis: Methods and Protocols. 1st ed. Humana Press; 2017

Performance

Method Description
The reptilase time assay is performed on the Instrumentation Laboratories ACL TOP. Patient plasma is combined with a reptilase reagent containing a thrombin-like enzyme triggering the coagulation process in the mixture. Time to clot formation is measured optically using a wavelength of 671 nm.(Owen CA, Bowie EJW, Thompson JH. Tests of hemostasis and blood coagulation. In: The Diagnosis of Bleeding Disorders. 2nd ed. Little, Brown and Company; 1975:85-154)

PDF Report
No

Day(s) Performed
Monday through Friday

Report Available
1 to 4 days

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.

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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

85635

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
RTSC	Reptilase Time, P	6683-7

Result ID	Test Result Name	Result LOINC® Value
RTSC	Reptilase Time, P	6683-7