MAYO CLINIC LABORATORIES

Test Definition: FHEP2

Heparin Cofactor II

Overview

Useful For

Assessment of thrombotic risk associated with heparin cofactor II levels.

Method Name

Chromogenic

NY State Available

Yes

Specimen

Specimen Type

Plasma Na Cit

Specimen Required

Patient Preparation: Do not draw from an arm with a heparin lock or heparinized catheter.
Specimen Type: Citrated plasma
Collection Container/Tube: Light-blue top (citrate)
Specimen Volume: 2 mL
Collection Instructions: Draw blood in a light blue-top (Sodium citrate) tube(s). Spin down and send 2 mL citrated plasma frozen in a plastic vial.

Note: Separate specimens must be submitted when multiple tests are ordered.

Specimen Minimum Volume

1 mL (Note: This volume does not allow for repeat testing.)

Reject Due To

Thawing**	Cold reject; Warm reject
Other/Tissue/Swab	Specimens other than Plasma; Anticoagulants other than Sodium citrate

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Plasma Na Cit	Frozen	180 days	

Clinical & Interpretive

Clinical Information

Heparin cofactor II is a glycoprotein that belongs to the serine protease inhibitor family. Heparin cofactor II, also known as heparin cofactor A or dermatan sulfate cofactor, has a molecular weight of approximately 65 kilodaltons and has a plasma concentration of 9 mg/dL. Heparin cofactor II is synthesized by the liver and has a plasma half-life of 60 hours. Heparin cofactor II specifically inhibits thrombin, in contrast to antithrombin, which inhibits thrombin, factor Xa, and other serine proteases. The inhibition of thrombin by heparin cofactor II is approximately 10 times slower than antithrombin-mediated inhibition and occurs through the formation of equimolar complexes between the reactive site of the inhibitor and the active site of thrombin. The antithrombotic activity of heparin cofactor II is greatly enhanced (over 1000-fold) in the presence of heparin and dermatan sulfate. The physiologic function of the molecule is unclear, but its role may be to serve as an antithrombotic agent in the presence of dermatan sulfate. Acquired deficiencies of heparin cofactor II are reported in patients with liver disease and disseminated intravascular coagulation. Conversely, increased levels of heparin cofactor II may be observed in individuals with renal disorders with proteinuria, during pregnancy, and with oral contraceptive usage. Inherited deficiency of heparin cofactor II has been reported in rare instances and is inherited as an autosomal dominant trait. A clear relationship between increased risk of thrombosis and heparin cofactor II deficiency has not been established since deficiency of heparin cofactor II is observed in both healthy individuals and those with thrombotic episodes. Limited studies have shown that heterozygosity for heparin cofactor II is not a likely risk for thrombosis without other concomitant risk factors. Other studies have reported thrombotic episodes in 36% of individuals with the deficiency.

Reference Values

65-145%

In healthy adults, heparin cofactor II reference range in plasma is 65% to 145%. Plasma levels of heparin cofactor II are approximately 50% of adult levels at birth and reach adult levels at six months of age.

Performance

Method Description

Patient plasma is incubated with excess thrombin in the presence of dermatan sulfate. Residual thrombin activity reacts with chromogenic substrate and the color intensity is inversely proportional to heparin cofactor II levels. Heparin levels up to 1 U/mL do not affect the heparin cofactor II assay.

PDF Report

No

Performing Laboratory Location

Esoterix Coagulation

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

Results of this test are for research purposes only per the assay manufacturer. The performance characteristics of this assay have not been established. The result should not be used as a diagnostic procedure without confirmation of the diagnosis by another medically established diagnostic product or procedure.

CPT Code Information

85130

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
FHEP2	Heparin Cofactor II	33987-9

Result ID	Test Result Name	Result LOINC® Value
FHEP2	Heparin Cofactor II	33987-9