MAYO CLINIC LABORATORIES

Test Definition: GBETH

General Factor Bethesda Units, Plasma

Overview

Useful For

Detecting and quantifying the presence and titer of a specific factor inhibitor directed against a specific coagulation factor

Method Name

Only orderable as a reflex. For more information see:
-ALBLD / Bleeding Diathesis Profile, Limited, Plasma
-ACBL / Bleeding Diathesis Profile, Comprehensive, Plasma
-APROL / Prolonged Clot Time Profile, Plasma
-2INHE / Factor II Inhibitor Evaluation, Plasma
-7INHE / Factor VII Inhibitor Evaluation, Plasma
-10INE / Factor X Inhibitor Evaluation, Plasma
-11INE / Factor XI Inhibitor Evaluation, Plasma

Optical Clot-Based

NY State Available

Yes

Specimen

Specimen Type

Plasma Na Cit

Ordering Guidance

If type of inhibitor is unknown, see APROL / Prolonged Clot Time Profile, Plasma.

Specimen Required

Only orderable as a reflex. For more information see:
-ALBLD / Bleeding Diathesis Profile, Limited, Plasma
-APROL / Prolonged Clot Time Profile, Plasma
-2INHE / Factor II Inhibitor Evaluation, Plasma
-7INHE / Factor VII Inhibitor Evaluation, Plasma
-10INE / Factor X Inhibitor Evaluation, Plasma
-11INE / Factor XI Inhibitor Evaluation, Plasma

Reject Due To

Gross	Reject

hemolysis	
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

Significant bleeding can result from the presence of a coagulation factor inhibitor and could be life threatening. Whether the inhibitor is present due to hemophilia or is of an acquired nature, it greatly complicates the treatment process of a decreased factor level. The titer of the inhibitor may determine the mode of treatment. Bethesda units are a standardization to give a uniform definition of an inhibitor.

Reference Values

Only orderable as a reflex. For more information see:
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-ACBL / Bleeding Diathesis Profile, Comprehensive, Plasma
-APROL / Prolonged Clot Time Profile, Plasma
-2INHE / Factor II Inhibitor Evaluation, Plasma
-7INHE / Factor VII Inhibitor Evaluation, Plasma
-10INE / Factor X Inhibitor Evaluation, Plasma
-11INE / Factor XI Inhibitor Evaluation, Plasma

< or =0.5 Bethesda Units

Interpretation

An interpretive report will be provided when testing is complete.

Cautions

No significant cautionary statements

Clinical Reference

1. Biggs R, Bidwell E. A method for the study of antihaemophiliac globulin inhibitors with reference to six cases. Br J Haematol. 1959;5:379-395
2. Hoyer LW. Factor VIII inhibitors. In: Hoyer LW, eds. Progress in Clinical and Biological Research. Vol 150. R Alan Liss Inc, 1984:87-98
3. Kasper CK, Aledort L, Aronson D, et al. Proceedings: A more uniform measurement of factor VIII inhibitors. Thromb Diath Haemorrh. 1975;34(2):612
4. Kasper C, Ewing N. Acquired inhibitors of plasma coagulation factors. J Med Tech. 1986;38:431-439
5. Kottke-Marchant K, ed. Laboratory Hematology Practice. Wiley Blackwell Publishing; 2012
6. Hoffman R, Benz Jr EJ, Silberstein LE, et al, eds. Hematology: Basic Principles and Practice. 7th ed. Elsevier; 2018

Performance

Method Description

Undiluted patient plasma and serially diluted patient plasma are mixed with an equal volume of normal pooled plasma (NPP). The NPP supplies the factor against which the inhibitor is directed in a known concentration. The patient plasma mixtures, along with a control (Bethesda Pool) of diluted NPP are incubated at 37 degrees C for 2 hours, after which factor activity is measured. The factor activity in the undiluted patient and its serial dilutions are compared to the factor activity recovered in the Bethesda Pool. These values are then used to calculate Bethesda units. One Bethesda unit is defined as the amount of antibody that will destroy 50% of the coagulation factor activity in 2 hours.(Owen CA Jr, Bowie EJW, Thompson JH Jr. Diagnosis of Bleeding Disorders. 2nd ed. Little, Brown and Company; 1975; Meijer P, Verbruggen HW, Spannagi M. Clotting factors and inhibitors: Assays and interpretation. In: Kottke-Marchant K, ed. Laboratory Hematology Practice. Wiley Blackwell Publishing; 2012:435-446)

PDF Report

No

Day(s) Performed

Monday through Friday

Report Available

2 to 5 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.

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

Test Definition: GBETH

General Factor Bethesda Units, Plasma

85335

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
GBETH	General Factor Bethesda Units, P	13591-3

Result ID	Test Result Name	Result LOINC® Value
607434	General Factor Bethesda Units, P	13591-3