MAYO CLINIC LABORATORIES

# Test Definition: GBETH

General Factor Bethesda Units, P

## 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
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 hemolysis | Reject |
| Gross lipemia | Reject |
| Gross icterus | Reject |

### Specimen Stability Information

| Specimen Type | Temperature | Time | Special Container |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Plasma Na Cit | Frozen (preferred) | 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 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:
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
< 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 antihemophiliac globulin inhibitors with reference to six cases. Br J Haematol 1959;5:379-395
2. Hoyer LW: Factor VIII inhibitors In Progress in Clinical and Biological Research. Vol 150. Edited by LW Hoyer, R Alan Liss Inc, 1984, pp 87-98
3. Kasper C, Aledort L: A more uniform measurement of factor VIII inhibitors. Thromb Diath Haemorrh. (Stuttg) 1975;34:869
4. Kasper C, Ewing N: Acquired inhibitors of plasma coagulation factors. J Med Tech 1986;38:431-439
5. Laboratory Hematology Practice. Edited by K Kottke-Marchant. Wiley Blackwell Publishing. 2012

## 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. Second edition. Little, Brown and Company, 1975; Meijer P, Verbruggen and Spannagi M. Chapter 33: Clotting factors and inhibitors: Assays and Interpretation. In Laboratory Hematology Practice Edited by K Kottke-Marchant. Wiley Blackwell Publishing. 2012. pp 435-466)

### PDF Report

No

### Performing Laboratory Location

Rochester

## Fees & Codes

### 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

85335