Platelet Autoantibodies

Autoantibodies to platelet glycoproteins are considered to represent a major mechanism of immune thrombocytopenia (ITP). A diagnosis of ITP is usually reached by excluding nonimmune causes of thrombocytopenia such as sepsis, fever, acute leukemia, and drug-induced thrombocytopenia. The majority of platelet autoantibodies react with platelet specific glycoproteins. [2-4]

Indications for testing:

- Multifactorial thrombocytopenia with suspected immune component
- Unresponsive to platelet transfusions

Test method:

ELISA - Platelets and plasma are isolated from whole blood. Platelets are washed and bound autoantibodies are eluted with a low pH buffer. Eluates and patient plasma are incubated in microtiter plates coated with GPIIb/IIIa, GPIb/IX, and GPIa/IIa captured with monoclonal antibodies. Glycoprotein-bound autoantibodies (IgG/A/M) are detected with enzyme labelled antibody. Colorimetric results are measured in an ELISA reader.

Advantages:

- Detects glycoprotein-specific antibodies in eluates prepared from washed patient platelets resulting in improved specificity.[5]
- Previous tests (TITAL PAIgG assays) were nonspecific in that positive results were often seen in patients with nonimmune types of thrombocytopenia.[1]
- Antibodies specific for the platelet glycoproteins GPIIb/IIIa, GPIb/IX, and GPIa/IIa are detected.

Limitations:

Positive or negative results should be used in conjunction with clinical findings and other test results to establish diagnosis. Autoantibodies present at reduced levels, as in ITP responsive to therapy, may be missed in this assay. This assay detects only antibodies reactive with platelet GPIIb/IIIa, GPIb/IX and GPIa/IIa. Human anti-mouse antibodies may be detected, causing false positive results.

Samples from patients recently transfused may reflect characteristics of donor, rather than patient, platelets. If the patient has been transfused, it is ideal to wait 4 days before drawing sample. If the patient is receiving continuous platelet transfusions, draw sample immediately before next transfusion. Steroids or IVIg do not affect testing.

Specimen requirements:

ACD-A whole blood (yellow top).

Patient Platelet Count	Volume of Whole Blood
< 100,000 per mm3	40 ml
> 100,000 per mm3	10 ml

Note: Sample must be received within 4 days of blood collection.

Reference Range:

Negative – ELISA values less than twice the normal calibrator values.

Positive – ELISA values greater than twice the normal calibrator values.

versiti™

SHIP

Shipping requirements:

Ship with an ice pack. Protect whole blood from freezing by wrapping in paper towels. Place the specimen and the test requisition into plastic bags and seal. Insert into an insulated container, place in a sturdy cardboard box and tape securely. Ship the package in compliance with your overnight carrier guidelines. Label box with the following address:

Client Services/Platelet and Neutrophil
Immunology Laboratory
Versiti Wisconsin, Inc.
638 N. 18th St.
Milwaukee, WI 53233

ORDER

Required forms:

Please complete all pages of the requisition form. Clinical history (including patient's clinical diagnosis, family history and relevant laboratory findings). Clinical and laboratory history can either be recorded on the requisition form or clinical and laboratory reports can be submitted with the sample.

CPT Codes/Billing/Turnaround time:

Test Code: 5544

CPT codes: 86022, 86023

Turnaround time: 3 days (testing performed Monday-Friday)

CPT and Order Codes are provided for reference purposes only and are subject to change. They are not intended as a guide for internal billing procedures. Institution is solely responsible for identification of correct billing codes.

For additional information related to shipping, billing or pricing, please contact, Versiti Client Services: (414) 937-6396 or 800-245-3117, Option 1, or LabInfo@versiti.org .

References:

1. Kelton JG. Thromb Haemost 74:228-, 1995.
2. Ruyi H, Reid DM, Jones CE, Shulman NR. Blood 83:1024-1032, 1994.
3. Brighton TA, Evans S, Castaldi PA, Chesterman CN, Chong BH. Blood 88:194-201, 1996.
4. Berchtold P, et al. Brit. J. Haematol. 96:477-483, 1997.
5. Hurilmann-Forster M, Steiner B, Felten A. Brit. J. Haematol. 98:328-335, 1997.

versiti™