Heparin-Induced Thrombocytopenia (SRA)

Versiti offers Serotonin Release Assays (SRA) for detection of Heparin-Dependent Platelet Antibodies.

Heparin-induced thrombocytopenia (HIT) associated with thrombosis is an immune complex mediated disorder that can cause morbidity and mortality in patients receiving heparin therapy. Prompt diagnosis is paramount to appropriate patient management. The diagnosis of HIT is suspected when:

1. A sustained decline in the platelet count occurs during heparin therapy;
2. The platelet count recovers after heparin is discontinued; and
3. No other causes of thrombocytopenia are evident.

Indications for testing:

The SRA[1] is still considered the "gold standard" assay for the detection of heparin-dependent antibodies in HIT. Various studies have reported the sensitivity and specificity of the SRA to be as high as 90% and 100%, respectively.[2,3]

- Because of its high specificity, the SRA is often useful for confirmation of weak or "inconclusive" results obtained with the highly sensitive PF4/ELISA.[4,5]
- The SRA can also be used to evaluate samples for antibodies that cross-react with low molecular weight heparins such as Lovenox.®

Test method:

14C-Serotonin release assay (SRA).

Assay sensitivity and limitations:

- The presence of "non-drug" antibodies reactive with platelets (e.g., HLA Class I, autoantibodies, platelet specific antibodies) in the patient's serum can induce heparin independent release of serotonin in the SRA.
- Testing with Lovenox® (enoxaparin) versus unfractionated heparin has not been validated as a useful guide to clinical management.

Reporting of results:

- A positive result requires > 20% release of serotonin with low dose heparin and < 20% release in the presence of a high concentration of heparin.
- Percent release with low dose and high dose heparin are reported.
- Results are interpreted as negative, borderline positive, or positive.

Specimen requirements:

5 ml refrigerated serum.

SHIP

Shipping requirements:

Place the specimen and the test requisition form in plastic bags, seal, place in a Styrofoam container and surround with cold packs. Seal the Styrofoam container, place in a sturdy cardboard box and tape securely. Ship the package in compliance with your overnight carrier guidelines.

Send to:

Versiti Client Services
Platelet and Neutrophil Immunology Laboratory
638 N. 18th Street
Milwaukee, WI 53233
800-245-3117, ext. 6250

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ORDER

Required forms:

Please complete all pages of the requisition form.

CPT Codes/Billing/Turnaround time:

Test code: 5508

CPT code: 86022

Turnaround time: 1-3 days

References:

1. Sheridan D, Carter C, Kelton JG. A diagnostic test for heparin-induced thrombocytopenia. Blood 1986, 67:27-30.
2. Eichler P, Rashke R, Lubenow N, Meyer O, Shwind P, Greinacher A. The new ID-heparin/PF4 antibody test for rapid detection of heparin-induced antibodies in comparison with functional and antigenic assays. Brit J Haematol 2002; 116:887-891.
3. Arepally G, et al. Comparison of PF4/heparin ELISA assay with the 14C-serotonin release assay in the diagnosis of heparin-induced thrombocytopenia. AJCP 1995; 104:648-654.
4. Collins JL, Aster RH, Moghaddam M, Piotrowski M, Strauss TR, McFarland JG. Diagnostic testing for heparin-induced thrombocytopenia (HIT): an enhanced platelet factor 4 complex enzyme linked immunosorbent assay (PF4 ELISA). Blood 1997; 90 (Suppl 1):461a.
5. Visentin TP, Ford SE, Scott JP, Aster RH. Antibodies from patients with heparin induced thrombocytopenia/ thrombosis are specific for platelet factor 4 complexed with heparin or bound to endothelial cells. JCI 1994, 93:81-88.
6. Davoren A, Aster RH. Heparin-induced thrombocytopenia and thrombosis. Am J Hematology 2006; 81:36-44.

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