Heparin-Induced Thrombocytopenia – PEA

PF4-Dependent P-Selectin Expression Assay (PEA)

The Platelet & Neutrophil Immunology Laboratory of Versiti Diagnostic Labs has more than 25 years of experience performing advanced testing for Heparin-Induced Thrombocytopenia (HIT), and is pleased to offer the Platelet P-Selectin Expression Assay (PEA) for evaluation of HIT.

Heparin-Induced Thrombocytopenia (HIT) is an adverse drug interaction mediated by platelet-activating antibodies that target complexes of platelet factor 4 and heparin. Affected patients are at markedly increased risk of thromboembolism.[1]

The incidence of HIT in hospitalized patients was ~1 in 1500, and older patients are at a higher risk for HIT than those aged less than 50 years. Patients undergoing surgery with cardiopulmonary bypass and hemodialysis have a relatively high incidence of HIT. Thrombosis is seen in ~1 in 3 HIT discharges, most frequently venous thrombosis. Bleeding during hospitalization was noted in ~6% of HIT discharges and almost a quarter of patients with HIT and hemorrhage died.[2]

Various laboratory assays have been developed to identify the presence of and functional ability of heparin-induced antibodies to activate platelets.

The PF4-dependent P-Selectin Expression Assay (PEA) is a functional assay that has been developed to identify patients likely to have Heparin-Induced Thrombocytopenia/Thrombosis.[3]

The PEA assay is available from Versiti in two ways:

- As a standalone order (Order Code: 5502); or
- As part of a reflexive testing algorithm from PF4 immuno assay testing (Order Code: 5504).

Indications for testing:

Because of its high sensitivity, the PEA is useful for confirming weak or "inconclusive" results obtained with the highly sensitive PF4/ELISA.

Test method:

Flow Cytometry

Assay sensitivity and limitations:

- PEA clinical/diagnostic sensitivity is calculated to be 100% and specificity is 95%.[4]
- The PEA assay is not affected by hemolysis up to 250mg/dL hemoglobin, 0.2mg/mL bilirubin, 50% lipemic serum, or heparin up to 1.0U/mL.[4]

Reporting of results:

- Percent release with PF4 30 mcg/mL and PF4 30 mcg/mL plus 100 U/mL high dose heparin are reported.
- Results are interpreted as positive, negative, borderline positive, or see interpretation.

Specimen requirements:

5 mL refrigerated or frozen serum collected at least 3 hours after heparin administration.

Minimum/Pediatric volume: 1 mL.

Plasma is NOT acceptable for this assay.

versiti™

SHIP

Shipping requirements:

Refrigerated (If already frozen, send on dry ice).

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. Label with the following address:

Versiti Client Services
Diagnostic Labs
638 N. 18th Street
Milwaukee, WI 53233
800-245-3117, ext. 6250

ORDER

Required forms:

Please complete all pages of the requisition form.

CPT Codes/Billing/Turnaround time:

Test code:
Heparin-Induced Thrombocytopenia – PEA: 5502

Heparin-Induced Throbocytopenia Evaluation – PEA: 5504

For suggested CPT codes, vist the Versiti.org/test-catalog

Turnaround time:

5502: 1 day. Assay performed six days per week, Monday through Saturday.

5504: 2-4 days

References:

1. *American Society of Hematology 2019 guidelines for management of venous thromboembolism*. **Cuker, et al.** 22, s.l. : The American Society of Hematology, 2018, Vol. 2.
2. **Disease burden, complication rates, and health care costs of heparin-induced thrombocytopenia in the USA. Dhakal, et al.** 5, s.l. : Landet Haematology, 2018, Lancet Haematology, Vol. 5, pp. e220-e231.
3. *A novel PF4-Dependant Platelet Activation Assay Identifies Patients Likely to Have Heparin-Induced Thrombocytopenia/Thrombosis.* **Padmanabhan, et al.** 3, s.l. : CHEST, 2019, Vol. 150.
4. Versiti Data on file.

versiti™