Who we are

Majority owned by the NHS, but with the commercial freedom to invest in innovation, Viapath are on a mission to transform pathology services in the UK. We provide pathology services to the NHS, private hospitals and other organisations both across the country and internationally.

What we do

All our laboratories are either accredited or working towards accreditation by UKAS to ISO15189. To view our laboratory accreditation status please follow this link:
http://www.viapath.co.uk/about-viapath/quality-and-governance/accreditations

TEST OVERVIEW

Description
An indirect ELISA is employed for immunological detection of HIT antibodies. HIT antibodies are captured by bound platelet factor 4 (PF4)-polyvinylsulphate complexes, which expose the same cryptic epitope in PF4 as that when bound to heparin. Unbound material is then washed and a solution of antibody to human immunoglobulin in that is conjugated to an enzyme is added to ‘tag’ onto any captured HIT antibodies. Unbound conjugate is washed off and a substrate for the enzyme is added, the product of the enzyme-substrate reaction being coloured. Colour intensity is in direct proportion to the degree of conjugate-binding, itself proportional to the amount of HIT antibody capture. The assay is not quantitative and is reported as either positive or negative based on whether the colour intensity exceeds a kit-specific cut-off value.

Clinical details
Approximately 5% of patients on unfractionated heparin therapy develop type 2 heparin-induced thrombocytopenia (HIT). Some of the platelet factor 4 (PF4) released from activated platelets binds to the platelet surface, to which heparin will bind. This causes a conformational change in the PF4 and exposes neoepitopes which are immunogenic and can lead to antibody production. The thrombocytopenia arises from removal of antibody-coated platelets from the circulation by the reticuloendothelial system. Bleeding is rarely a problem but conversely, thrombosis is a recognised complication because antibody binding activates platelets to form platelet aggregates, further reducing the platelet count. Procoagulant microparticles are generated and excess PF4 not bound to heparin instead binds to endothelial heparan sulphate which can lead to further antibody formation and immune complex-mediated endothelial damage, which can progress to thrombosis or DIC. Type 1 HIT is not immune mediated but caused by mild direct platelet activation by heparin and is ostensibly benign. HIT can occur in LMWH therapy but is less common. HIT is largely a clinical diagnosis but laboratory assays are valuable for confirmation or exclusion. Immunological assays detect the antibodies directly whilst functional platelet activation assays demonstrate the effect of patient antibodies on donor platelets. Functional assays tend to have a lower sensitivity for HIT antibodies than immunological assays but a higher probability of identifying clinically significant antibodies.

Related condition or disease
Heparin induced thrombocytopenia (HIT)

Reference range
Negative

Department
Haemostasis and Thrombosis Department

Laboratory
Diagnostic Haemostasis and Thrombosis Laboratory at St Thomas’

Location
Viapath at St Thomas’ Hospital
HEPARIN INDUCED THROMBOCYTOPENIA (HIT): ELISA FOR HEPARIN:PF4 ANTIBODIES

ORDERING INFORMATION

Sample type and Volume required
External requests: Serum 300µL x 1 aliquot Internal requests: please refer to EPR label

Turnaround time
5 days Call laboratory to arrange urgent analysis

Contacts
Diagnostic Haemostasis and Thrombosis Department
020 7188 2797
St Thomas’ Hospital
North Wing - 4th and 5th Floors
Westminster Bridge Road
London SE1 7EH

Laboratory opening times
24/7

How can we help?

We have a number of partnering options to suit your needs, whether you require this specific test or a range of services, we are here to help. Contact one of our friendly Business Development Managers for more information, or visit our website.