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
A platelet aggregometry technique is employed as the functional assay for detecting HIT antibodies. Test serum is incubated together with freshly drawn normal donor platelets and either a high or low concentration of heparin. A patient with HIT antibodies will activate donor platelets in the presence of low concentration heparin but that effect is abolished at the higher concentration as the antibody is swamped.

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 yet 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

ORDERING INFORMATION

Sample type and Volume required
External requests: Citrated platelet poor plasma 400µL x 1 aliquot
Internal requests: please refer to EPR label

Contacts
Diagnostic Haemostasis and Thrombosis Department
020 7188 2797
St Thomas’ Hospital
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.