

Coagulation Testing

Inflammation, endothelial damage, and platelet activation trigger secondary hemostasis, comprising initiation and propagation of the coagulation cascade and the formation of insoluble fibrin to consolidate and stabilize the thrombus. The coagulation cascade consists of two arms: The extrinsic pathway (tissue factor pathway), which activates Factor X in response to trauma or vascular damage; and the intrinsic pathway (contact activation pathway) which is a tightly regulated signaling cascade capable of activating Factor X. Through these respective mechanisms, the extrinsic and intrinsic pathways converge to produce activated Factor X (FXa), which subsequently generates thrombin (Factor IIa) to convert fibrinogen to fibrin, the primary component of the insoluble clot formed during secondary hemostasis.

Monitoring coagulation (i.e. clotting times), specific coagulation factor activity, and biomarkers indicative of cascade activation and thrombus formation, yields insight as to patient risk for bleeding, thrombosis, and vascular inflammation. Coagulation testing is an essential component of clinical safety studies, regardless of pharmacologic target. Specific function testing and biomarker analysis also provides invaluable insight as to patient inflammatory response.

CirQuest offers a panel of commercial and proprietary tests as well as nearly three decades of expertise in the area of coagulation to support your translational and clinical research needs.

Clinical Trial Support

- GLP/GCLP compliant, CLIA certified laboratory
- Method optimization & assay development
- Central lab services, data analysis, & QC reporting
- Sample tracking, management, and biostorage
- Panel of instrumentation (Stago, ACL Elite, Stratus, etc.)
- Limited equipment leasing

Coagulation Testing Available

Clotting Tests

- aPTT (intrinsic pathway)
- PT (extrinsic pathway)
- Thrombin time (clotting inhibitor function)
- Ecarin (clotting inhibitor function)
- dRVVT (clotting inhibitor function)
- Modified Bethesda assay and inhibitor titer

Function Tests

- Thrombin generation
- Factor activity assays
- vWF activity (Ristocetin)

Biomarkers Routinely Analyzed

- Alpha-2-anti-plasmin (PAP)
- Anti-Thrombin III (ATIII)
- Beta-Thrombin (BTG)
- D-Dimer
- Coagulation Factors
- Fibrinogen
- Free or total Tissue Factor Pathway Inhibitor (TFPI)
- Microparticles (total, endothelial, or platelet-derived)
- Platelet Factor 4 (PF4)
- Prothrombin fragment 1+2 (F1.2)
- Soluble E-Selectin (sCD62E) or soluble P-Selectin (sCD62P)
- Soluble Thrombomodulin (sTM)
- Thrombin Activatable Fibrinolytic Inhibitor (TAFI)
- Tissue Plasminogen Activator (TPA)
- vWF antigen

