# Sonoclot® Coagualtion & Platelet Function Analyzer

Principle of Operation

The principle of operation embodied within the Sonoclot Analyzer is best described as a microviscometer. The electronics are sensitive to any resistance to motion that the oscillating probe encounters as it moves within the test sample. The greater the viscosity of the fluid, the greater the output signal generated by the Analyzer.

The output signal is calibrated to reference viscosity standards and reported in normalized 'Clot Signal' units.
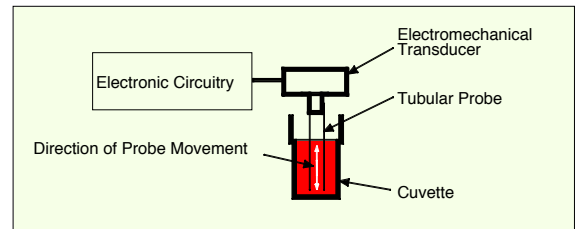
Interpreting a Sonoclot Signature

Hemostatic Phases of the Sonoclot Signature

This graph illustrates how the Sonoclot Signature is used to monitor different phases of hemostasis, from coagulation through fibrin formation and clot retraction to the formation of a mature clot.
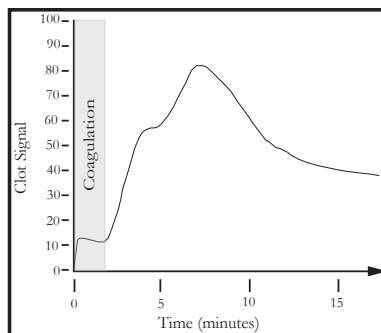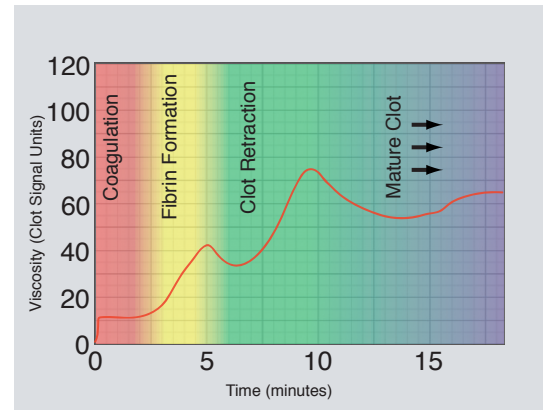

Step 1: Activated Clotting Time (ACT)

This is the period from the beginning of the test when the sample is still a liquid until the point where fibrinogen begins to convert into a fibrin gel, thus increasing the viscosity of the sample. The Sonoclot Analyzer produces an automated result as the Onset or Activated Clotting Time. This is the point where the viscosity measurement rises by 1.0 Clot Signal unit on the Sonoclot Signature.

Step 2: Fibrin Gel Formation

This is the period during which fibrinogen forms a fibrin gel and is represented by the first rise in the Sonoclot Signature. The Sonoclot Analyzer produces an automated result called the Clot Rate. The Clot Rate is the maximum slope of the Sonoclot Signature during initial gel formation.
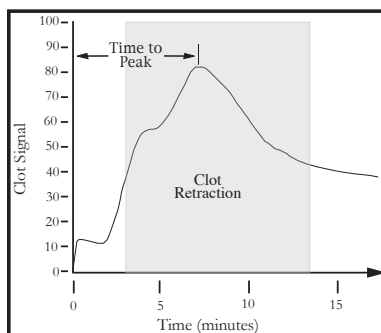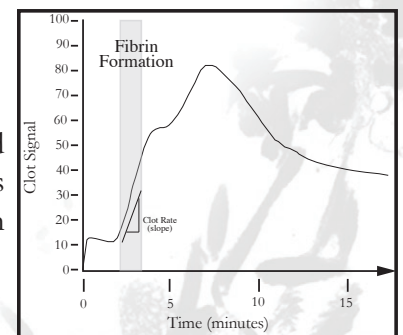
Step 3: Clot Retraction

Clot retraction causes a peak or peaks on the Sonoclot Signature. Historically, platelet function has been characterized by several graphical indicators such as the Time-to-Peak. Now the Sonoclot Analyzer, when run using Signature Viewer Software, produces an automated result called "Platelet Function." The Platelet Function number quantifies the quality of the clot retraction. Results will have values between 0 (no platelet function) and 5 (strong platelet function).