

# Instructions for Running Citrated Blood on the Sonoclot Analyzer

These instructions describe how to prepare and run a test using citrated whole blood. When running citrated whole blood samples, follow these instructions in conjunction with the test kit instructions and the Sonoclot Analyzer operator's manual.

## PROCEDURE

### A. Equipment Required:

- 1) Sonoclot Analyzer System: Model SC1, SCP1, SCP2, or SCP4
- 2) Sonoclot Tests: kACT Kit, SonACT Kit, aiACT Kit, gbACT+ Kit, gbACT Kit, or Non-Activated Clotting Test Kit.

### B. Materials Required (not supplied by Sienco)

- 1) Discard collection tube (red top)
- 2) Citrated collection tube (blue top) containing 3.2% sodium citrate
- 3) Plastic vial with lid
- 4) Pipettes capable of accurately delivering 330ul and 20 to 60ul
- 5) Disposable pipette tips
- 6) 0.25M Calcium Chloride

### C. Preparation

- 1) Make sure that the Sonoclot Analyzer is turned on and warmed up with the head assembly in the down position. Check that the analyzer is correctly connected to the desired output device (see operator's manual).
- 2) Sharply tap the Sonoclot test cuvette against a hard surface, cap side up, to dislodge activation powder from the sides and lid.
- 3) Place the cuvette into a convenience well. Allow the cuvette to warm in the cuvette holder for 30 seconds before beginning a test. Probes fit into the cuvette lids for convenient storage. Multiple cuvettes may be placed in the wells.

### D. Cuvette and Probe Set-up

- 1) Open the head by tilting it backwards.
- 2) With a slight twisting motion, seat the probe on the mount hub. This motion should result in the probe sliding straight over the probe mount hub. **The hub should not move sideways.** The probe must be fully seated for proper operation.
- 3) **While the cuvette is still in the well**, remove the cuvette lid by popping it off with your thumb and forefinger. Insert the opened cuvette into the cuvette holder with a slight twisting motion. Make sure that it is fully seated.

### E. Obtaining the Blood Sample

Collect the blood sample using standard phlebotomy techniques. When drawing blood, observe the following precautions:

- Carefully decide where to draw the sample. Contamination (from a heparinized line, a heparin-impregnated catheter, or a surgery prep line) will cause inaccurate results.
  - Withdraw blood in a smooth, slow, and non-traumatic manner. Do not use force.
  - Human blood is a biohazardous material. The operator should wear appropriate protective gear when handling blood and/or test cuvettes containing blood samples. Biocontaminated materials should be handled and disposed of properly in accordance with hospital, local, state, and national regulations.
- 1) Fill the discard tube and set aside.
  - 2) Completely fill the citrated collection tube. Gently tilt several times to mix.
  - 3) Store at room temperature. Use within 2 hours.

### F. Determining the Amount of Calcium Chloride

Citrated blood must be recalcified prior to running a test on the Sonoclot Analyzer. For best results, samples should be run as soon as possible after recalcification.

Use the chart below to select the number of tests to be run. Identify the proper amount of citrated blood and calcium chloride needed for that number of tests.

# of Tests	mL Citrated Blood	ul 0.25M Calcium Chloride
1	0.5	20
2	1	40
3	1.5	60

### G. Running the Sonoclot Analyzer

- 1) Gently invert the blue top collection tube. Pipette the proper amount of citrated blood into a plastic vial.
- 2) Pipette the proper amount of calcium chloride into the plastic vial. Immediately cap the vial and invert gently 3 times to mix. Watch the vial to make sure mixing occurs.
- 3) Pipette 330uL of the recalcified blood into the Sonoclot cuvette. Use a reverse pipetting technique to avoid creating air bubbles.
- 4) Immediately press the START/STOP switch. The magnetic stirrer will rotate.
- 5) When mixing is completed, the analyzer will beep and the display will read "CLOSE HEAD". Close the analyzer head.
- 6) The sample is initially a liquid. After several minutes, the sample begins to evolve into a clot. The analyzer detects this initial clot formation, beeps, and displays the time that the sample remained a liquid (ACT).
- 7) During the next several minutes of analysis, the fibrinogen converts into a fibrin gel. The analyzer calculates the rate of change in the clot signal, beeps, and displays the Clot Rate value.
- 8) The analyzer will automatically stop when all results have been calculated or after 30 minutes (SC1) or 45 minutes (SCP1, SCP2, SCP4). The automatic shut-off feature can be customized to your specific requirements. Please refer to the operator's manual for complete instructions.
- 9) Open the analyzer head and remove the probe from the hub with a probe extractor. **Avoid moving the hub sideways.** Properly discard the probe and cuvette. Lower the head assembly to maintain temperature control of the instrument.

## OPERATIONAL PRECAUTIONS AND LIMITATIONS

Refer to the Sonoclot Analyzer operator's manuals and test kit instructions for use.

## BIBLIOGRAPHY

Sonoclot Analyzer operator's manuals  
Sonoclot Analyzer test kit instructions for use