1. **Principle**

The Galileo Echo is a microprocessor-controlled instrument designed to fully automate immunohematology in vitro diagnostic testing of human blood.

The Galileo Echo automates test processing, result interpretation, and data management functions. The Galileo Echo is designed to automate standard immunohematology assays using a micro-well strip-based platform.

The Galileo Echo uses Solid Phase Capture Technology for Antibody detection/identification, DAT, Weak D and compatibility testing. Standard micro-well hemagglutination is used for ABO and Rh (D) testing.

1. **Scope and Related Policies – N/A**
2. **Specimen**

EDTA anticoagulated whole blood, centrifuged. Red blood cell samples collected with the following anticoagulants and additives can also be tested on the Galileo Echo: EDTA, ACD, CPD, CPDA-1, CP2D, heparin, AS-1, AS-3, AS-5, and the combinations of CPD with AS-1, CPD with AS-3, and CPD with AS-5.

Samples that exhibit excessive hemolysis or lipemia or that are icteric should not be tested on the Galileo Echo. Samples that exhibit a hemolysis grade of 3+ or greater must not be tested on the Galileo Echo because they may generate erroneous results.

For assays using Capture-R® Select, do not use hemolyzed samples of grade 1+ or greater for creating a monolayer. Fragmented red blood cell membranes will interfere with monolayer formation.

1. **Material**

**Equipment:** Immucor Galileo Echo

**Supplies:** Liquid waste bottle (1)

PBS bottle (1)

Digital scale capable of measuring to four decimal places

Screwdriver set

Set of Allen keys

Stir balls

70% Isopropyl alcohol

Distilled water

Unbuffered saline

Strip holders/trays

Reagent/Donor/Sample racks

**Reagents:** Anti-A series 1

Anti-B series 3

Anti-D series 4

Anti-D series 5

Monoclonal control

Reverse A1 and B cells

Capture LISS

DAT control cells

CMT strips

Capture-R ready-Screen (3)

Capture-R Ready-ID, Select I & II

Capture-R Select

Capture-R Indicator Cells

WB corQC

PHIX

1. **Quality Control**

Quality Control on the ABD mono & reverse grouping and the Capture-R Ready Screen strips must be run once every 24 hours or whenever there is a change in lot number or major maintenance is done. This time frame has been configured within the software and cannot be over-ridden at any time.

1. **Procedure**
   1. Refer to “Performing a Run on the Galileo Echo.”
2. **Reporting - N/A**
3. **Procedural Notes**
   1. The Galileo Echo must be switched on at least thirty minutes prior to the first assay being run to allow the incubator to warm up.
   2. The Night Technologist will run the daily QC.
   3. Initialization and daily maintenance must be done every 24 hours.
   4. All reagents and specimens should be allowed to come to ambient temperature prior to use.
   5. Immucor requires the use of phosphate-buffered saline (PBS) prepared by adding pHix to commercially-prepared unbuffered saline. PHix is a concentrated solution of dissolved monopotassium and dipotassium salts. The addition of pHix to unbuffered saline, in the proper proportions, will bring the pH to a range of 6.9 to 7.2
   6. At least 250 μL of packed red blood cells need to be present in a sample tube to ensure that the probe picks up red blood cells and not plasma (only for those assays that require red blood cells).
   7. At least 500 μL of plasma or serum needs to be present in a sample tube to ensure that the probe picks up plasma or serum respectively.
   8. Samples run with the red blood cell antibody identification assays require approximately 1 mL of plasma or serum.
   9. Capture-R® Ready Indicator Red Cells can be used no more than 24 hours after a stir ball has been added to the vial. Vials of reagents other than Indicator Red Cells that have remained continuously on the Galileo Echo for 72 hours (3 days) should be removed and replaced with fresh vials. Vials of reagents other than Indicator Red Cells that are removed from the Galileo Echo when not in use and refrigerated can be used up to their expiration dates.
   10. All RBC reagents require addition of a stir ball prior to being loaded onto the Echo.
4. **References**

9.1 Galileo Echo Operator Manual