1. **Principle**
   1. Determination of compatibility between donor red blood cells and recipient plasma/serum using the Capture-R Select strips.
   2. Red cell antibodies may cause agglutination or lysis of red cells, or may coat the red cells with globulins. Donor cells are incubated with patient serum/plasma at 37°C. After incubation, strips are viewed for agglutination and/or hemolysis.
   3. Agglutination or hemolysis is usually an indication of antibodies.
2. **Scope and Related Policies**

Refer to SWIM manual, “Antiglobulin Crossmatch-Saline. LISS, PEG” sections 2.2, 2.2.1, 2.2.2, 2.2.3 and 2.3.

1. **Specimen**
   1. Plasma separated from EDTA anticoagulated whole blood.
   2. Serum centrifuged and separated from fully clotted whole blood.
   3. 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.
2. **Material**

Equipment: Immucor Galileo Echo

Supplies: Solid waste tray

Liquid waste container

Strip holders/trays

Reagent/Donor/Sample Rack

Reagents: PHIX buffered Saline

Capture-R Select Strips

DAT Control Cells

Capture-R Indicator Cells

Capture LISS

1. **Quality Control-N/A**
2. **Procedure**
   1. Place bar code from donor unit onto a plastic or glass 12 x 75 mm test tube.
   2. Clip and drain 1 segment from donor unit into respectively labelled tube.
   3. Place Donor Unit on Donor rack. Place Donor rack on Echo.
   4. Place patient’s sample (spun sample or just plasma) onto the sample rack. Place sample rack on Echo.
   5. Click on the running man.
   6. Select “Crossmatch”. Click “Next”.
   7. Select samples. Click Next.
   8. Select Donor Units. Click Next.
   9. Load required strips/reagents.
   10. Click ‘Begin Tests”.
3. **Reporting**
   1. The results shall be reviewed and verified by the Echo technologist.
   2. The “Batch Report” sheet shall be printed and given to the technologist on the antibody bench to review and compare with previous results for the given patient prior to issuing the donor units to the patient.
4. **Procedural Notes**
   1. DAT control cells are required for crossmatching. The Echo will pipette one control for every donor unit. A maximum of 4 crossmatches can be done on one strip.
   2. The test tube containing the red cells from the donor segment shall be checked for the presence of fibrin or clots prior to loading on to the Echo for crossmatching.
   3. Caution should be exercised when choosing donor units. Verify ABO compatibility. The Echo performs an IgG crossmatch only and will not pick up IgM antibodies.
5. **References**
   1. Galileo Echo Operator Manual
   2. SWIM Manual