1. **Principle**
   1. Red Cells are tested with specific antisera to determine the presence or absence of blood group antigen(s).
   2. In direct antigen typing, the specific antisera will agglutinate red cells that have the corresponding antigen. Agglutination may occur at room temperature, at 4° C or at 37° C depending on the antisera used.
   3. In indirect antigen typing, the specific antisera will sensitize red cells that have the corresponding antigen. Agglutination will occur by the indirect antiglobulin test (IAT).
2. **Scope and Related Policies**

Refer to SWIM manual, NRT.009 “Antigen typing – Direct and Indirect Agglutination” sections 2.1 to 2.5.

1. **Specimen**
   1. Antigen typing must be done on a pre-transfusion specimen. (EDTA anticoagulated whole blood.).
      * Preferably specimens should be tested within two days of collection.
      * Specimens that cannot be tested immediately should be stored at 4° C.
   2. Red cells stored in donor unit segments may be tested up to the expiration date of the unit.
   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 NEO

Supplies: System liquid container

Liquid waste container

Plate carriers

Reagent/Donor/Sample Rack

Reagents: PHIX buffered Saline

Capture-R Select Strips

CMT strips

Greiner microplates

Anti-D4

CorQc Std

CorQc Extend

Monoclonal Control

Capture-R Indicator Cells

Capture LISS

Capture-R Control Serum

1. **Quality Control**
   1. CorQc extend is run for Rh and Kell phenotyping. Once run the controls are valid for 24 hours.
   2. A monoclonal control is run in conjunction with Rh, Kell and Ag screening. This control must pass for the test to be valid.
   3. RT and 37C Ag screening utilize Anti-D4 with CorQc Std as run controls.
   4. AHG Ag screening use Capture-R serum control and CorQc Std as run controls.
2. **Procedure**
   1. Place bar coded sample or donor unit into appropriate rack.
   2. Load rack onto NEO.
   3. Order required phenotyping assay.
   4. Load required resources.
   5. Start Run.
3. **Reporting**
   1. The results shall be reviewed and verified by the NEO technologist.
   2. The Phenotyping and Ag screening reports will print automatically from the NEO.
4. **Procedural Notes**
   1. Rh QC and phenotyping can be run individually or as a group.
   2. Ag screening is NOT a test of record. Results must not be entered into the LIS. These results must be confirmed by an alternate method.
   3. Ag screening may use expired and or diluted antisera or a patient sample.
   4. Rh and Kell phenotyping use CMT strips for testing.
   5. RT and 37 Ag screening use Greiner strips for testing
   6. AHG Ag screening use Capture-R Select strips for testing.
5. **References**
   1. Galileo NEO Operator Manual
   2. SWIM Manual