**Purpose**

To provide guidelines for the testing and resulting of eluates and to describe the exclusion and confirmation techniques used for the process.

**Policy**

The HMC TSL uses the Elution technique as follows:

* To identify clinically significant antibodies that are bound to a patient’s red cells, in order to provide antigen negative units for the patient.
* To provide clinical diagnostic information to the medical staff in order to provide better patient care.

**Interpretation**

* **Positive Result:** Presence of hemolysis or agglutination at any phase of testing indicates the presence of antibody. Report the results in Sunquest using appropriate antibody codes.
* **Negative Result:** Absence of agglutination or hemolysis through all the steps of testing indicates that the antibody is not present. Report the results in Sunquest using code NOABE (No antibody activity demonstrated in eluate).
* **Rule-outs:** Rule-outs should be performed per antibody identification guidelines.

**Sample Requirements**

* Purple or Pink Top EDTA
* Retain sufficient cells and plasma in the original tube for compatibility testing.
* Order entered as battery DAT if Eluate is not a reflex test for an existing TSCR/TRRX.
* Perform DAT prior to performing eluate.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Storage** | **Testing** | **Retention** |
| **Original Sample** | 2-8°C | Within 3 days of draw | 45 days |
| **Eluate** | 2-8°C | Within 7 days of preparation | 7 days |

**Testing Frequency**

* Initial Samples will be tested based on the process below.
* Subsequent samples will be retested only when the patient has been transfused within the previous three months ***and*** there is a clinical indication for subsequent elution, i.e. an increase in DAT IgG reactivity, or the patient is having a delayed transfusion reaction and there is reason to suspect new antibody activity. Consult TSL manager or medical director if there is any question.

**Procedure**

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| --- | --- | --- |
| **Step** | **Action** | **Related Documents** |
| 1 | In addition to the Guidelines for Antibody Identification, the following steps must be completed:* Review by a 2nd tech prior to the release of results or blood products
* Describe additional steps to be considered on the Antibody ID Worksheet.
* Confirm any allocated red blood cells are antigen negative for any clinically significant alloantibodies detected in the eluate.
 | Guidelines for Antibody Identification |
| 2 | Following the identification of a clinically significant alloantibody in the eluate, * Review plasma/serum testing
* Perform enhanced techniques on patient sample to confirm antibody in the eluate is not present in the patient plasma/serum.
 | Antibody Screen by Polyethylene Glycol (PEG) Tube IAT MethodAntibody Panel using Enzyme-Treated Cells |
| 3 | For non-group O patients* If the eluate is non-reactive with group O reagent red cells:
	+ Review Transfusion Data printout to determine if whole blood or out of group plasma components have been transfused.
	+ Include Transfusion Data printout in the patient folder.
* If patient has received whole blood or out of group plasma components during the last 28 days, include A1 and B reagent red cell testing for ABO isoagglutinins:
	+ Last wash
	+ Eluate
 | Antibody Elution Using Gamma EluKit |
| 4 | Result eluate under test ELU in Sunquest:* Non-reactive eluate: NOABE – no antibody activity demonstrated in eluate
* Identified antibody: appropriate SQ antibody code
* Multiple eluates should have a Comment in the BAD file including the date of testing.
	+ Example: Non-reactive eluate 03172014, 3757

 ANTI JKA 02112014, 1234 | SQ Blood Order Processing Test Result Guide |
| 5 | Result eluate under ‘Comments’ section of the Eluate Testing Form and on the Antibody Identification Worksheet. | Eluate Testing FormAntibody Identification Worksheet |
| 6 | Contact the Medical Director if there are any questions concerning eluate testing and/or findings. |  |

**Initial Eluate Testing Process**



**References**

Package Insert Gamma ELU-KIT™ II IC3021-2

Package Insert Gamma PeG™ IC3026-3

AABB Technical Manual, Current Edition

Judd’s Methods in Immunohematology, Current Edition

AABB Technical Manual, Current Edition

AABB Standards for Blood Banks and Transfusion Services, Current Edition