

Serological versus Molecular Discrepancy Management

Donor Unit Discrepancy

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Resolving Discrepancies Between Serological and Molecular Testing in Donor Samples

- Correct antigen status of donor units
 - Prevent delayed transfusion reaction
 - Prevent stimulation of additional alloantibodies in patients that have made multiple antibodies
 - When phenotypically similar units are ordered



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Reagent Verification of New Monoclonal anti-Fyb Reagent

- Donor's historical Fyb status was Negative
 - Serological testing only
 - Performed on two separate donations
- Current Donation 5-2018:
 - Current Fyb antisera: Negative
 - New monoclonal Fyb antisera: Positive



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Serological Typing Results

| Original Type | | | | Method: Segs | | | | | Date: 3-1998 | | | | | | | |
|---------------|---|---|---|--------------|---|---|---|----|-----------------|-----------------|---|---|-----------------|-----------------|-----------------|-----------------|
| C | E | c | e | M | N | S | s | P1 | Le ^a | Le ^b | K | k | Fy ^a | Fy ^b | Jk ^a | Jk ^b |
| + | 0 | 0 | + | + | + | 0 | + | | 0 | | 0 | | + | 0 | + | + |

| 2nd Segment Type | | | | Method: Segs | | | | | Date: 9-2003 | | | | | | | |
|------------------|---|---|---|--------------|---|---|---|----|-----------------|-----------------|---|---|-----------------|-----------------|-----------------|-----------------|
| C | E | c | e | M | N | S | s | P1 | Le ^a | Le ^b | K | k | Fy ^a | Fy ^b | Jk ^a | Jk ^b |
| | 0 | 0 | | | | 0 | | | 0 | | 0 | | | 0 | | |



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What Now?

- Resolve discrepancy:
 1. Repeat serological testing with a second source of Fyb antisera
 2. Perform molecular testing for red cell antigens

Results of Investigation

- Serological Typing: Fyb Negative
- HEA Typing: Fyb = w
 - Results suggest donor is positive for the Fyx antigen
- Donor is considered Fyb Positive



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What Did We Do About Fyb Discrepancies Prior to the use of the Monoclonal Reagent?

| Original Type | | | | Method: HEA | | | | | Date: 2-1-2017 | | | | | | | |
|---------------|---|---|---|-------------|---|---|---|----|-----------------|-----------------|---|---|-----------------|-----------------|-----------------|-----------------|
| C | E | c | e | M | N | S | s | P1 | Le ^a | Le ^b | K | k | Fy ^a | Fy ^b | Jk ^a | Jk ^b |
| 0 | + | + | + | + | + | + | + | | | | 0 | + | 0 | w | + | 0 |

| Segment Type | | | | Method: Segs | | | | | Date: 1-31-2017 | | | | | | | |
|--------------|---|---|---|--------------|---|---|---|----|-----------------|-----------------|---|---|-----------------|-----------------|-----------------|-----------------|
| C | E | c | e | M | N | S | s | P1 | Le ^a | Le ^b | K | k | Fy ^a | Fy ^b | Jk ^a | Jk ^b |
| 0 | + | + | + | + | | + | + | | | | 0 | | 0 | 0 | + | 0 |

| 2nd Segment Type | | | | Method: Segx2 | | | | | Date: 3-30-2017 | | | | | | | |
|------------------|---|---|---|---------------|---|---|---|----|-----------------|-----------------|---|---|-----------------|-----------------|-----------------|-----------------|
| C | E | c | e | M | N | S | s | P1 | Le ^a | Le ^b | K | k | Fy ^a | Fy ^b | Jk ^a | Jk ^b |
| 0 | | | | | | | | | | | 0 | | 0 | 0 | | 0 |

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How Did We Label the Donor Unit with the Fyb Discrepancy?

- The Fyb antigen typing was not reported
 - Unit was not released to general inventory
 - Unit was used for a Reference Lab Transfusion Service patient



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