

ABID #9

1. What is the probable identity of this antibody(s)?

Anti- Le^a and anti- Le^b

2. Is any further workup needed to prove your hypothesis?

No; lack of reactivity in the Lewis neutralized antibody screen is considered to rule out other antibodies.

3. What is the probable source of the immunizing stimulus in this case?

Lewis antibodies are frequently non-RBC stimulated (“naturally occurring”).

4. Why did the technologist choose to use the 4 drop serum/saline technique?

Because the patient had a history of anti- Le^a , he or she chose a technique with an IS phase that was likely to detect cold-reactive antibodies.

5. Does this antibody(s) cause hemolytic transfusion reactions? Hemolytic disease of the newborn?

Strong anti- Le^a antibodies can cause hemolysis, but anti- Le^b does not cause IHTRs. Neither antibody causes DHTRs because the antigen elutes off of the donor RBCs before the anamnestic reaction can occur. Neither antibody causes HDN because newborns do not make the antigen.

6. What percent of donors is expected to be compatible with this recipient? How would we select blood for her?

Six % of Caucasians and 22% of African-Americans are $Le(a-b-)$. We would transfuse group A or O, Rh positive, IAT crossmatch-compatible RBCs that were not typed for Lewis antigens.

7. What is the biochemical nature of the antigen? (Review the relevant blood group system, including disease associations and racial differences in antigen prevalence.)

Lewis antigens are carried by glycosphingolipids in the plasma which adsorb onto and elute from the RBC membrane.