

Chapter 11- Lab ABO/Rh Simulated Blood Typing

Purpose: To determine the blood types of unknown persons by understanding the interactions between antibodies and antigens.

Introduction: A blood transfusion with blood of a mismatched blood type usually has serious consequences for the recipient of the blood. Complete blood analysis is done with sophisticated, costly equipment before transfusions are done. The basic principles of the blood typing will be illustrated in this activity using simulated ABO and Rh blood typing sera and simulated bloods.

Materials:

Blood typing slide wells, 4	Toothpicks, 12	Unknown Blood Samples:
Simulated Anti-A Sera	Marking Pen	Person W
Simulated Anti-B Sera		Person X
Simulated Anti-Rh Sera		Person Y
		Person Z

Procedures: Each member of your group, will be responsible for determining the blood types of the unknown samples. Choose which member will be determine the blood types of person W, X, Y, and Z.

- 1 Label four blood typing wells, "W," "X," "Y," "Z" using a marking pen.
- 2 Place 4 drops of Person W blood in each of the 3 wells in the slide marked "W." Similarly place 4 drops of X blood in each well on slide "X," Y blood on slide "Y," and Z blood on slide "Z."
- 3 Add 4 drops of Anti-A Sera to each slide in the Anti-A well. Similarly add Anti-B Sera to each Anti-B well and Anti-Rh Sera to each Anti-Rh well.
- 4 Use toothpick to stir each well. Be careful not to scratch the plate. Be sure you use a different and clean toothpick for each well. Use only one toothpick per well to avoid cross contamination. Mix each solution thoroughly and let the slides sit for 2 minutes.
- 5 Observe each well against a white background (paper) and record the results by writing "clumping" or "no clumping" in the ABO/Rh Simulated Blood Typing Table.
- 6 Based on "clumping" or "no clumping" and the table below, determine the blood type each person and whether they are Rh+ or Rh-.
- 7 Based on your lab results, answer the lab questions.
- 8 Dispose of all materials in the proper waste receptacle.

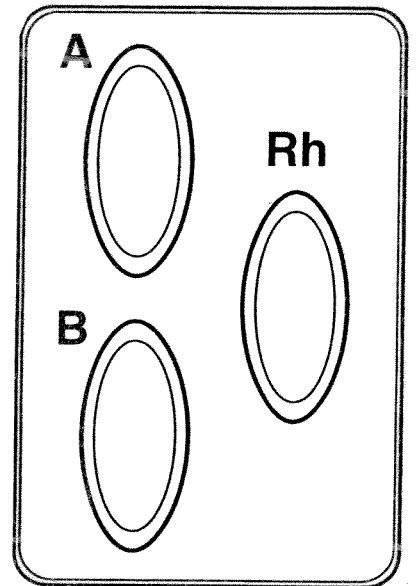


Figure 1. Blood Typing Slide Well.

Blood Type	Anti-a Sera	Anti-b Sera
A	clumping	no clumping
B	no clumping	clumping
AB	clumping	clumping
O	no clumping	no clumping

Name: _____

ABO/Rh Simulated Blood Typing Worksheet

	Anti-A Sera	Anti-B Sera	Anti-Rh Sera	Blood Type
Person W				
Person X				
Person Y				
Person Z				

Answer the following questions

1. What is Person X's blood type? What antigens are present on the surface of the red blood cells in Person X?
2. What is Person Y's blood type? What antibodies are present in Person Y's plasma?
3. Person Z needs a transfusion. What blood types might Person Z safely receive? Explain.
4. Could a man with type AB blood be the father of a child with type O blood? Explain.
5. Could a child with type B blood with a mother of type A blood have a father with type A blood? Explain.