

Forensic Science Blood Typing Basics

Name _____

We will be determining blood types using Anti-A serums, Anti-B serums, and Anti-Rh serums. Use the chart to help you determine the blood type of each sample and its Rh factor (+ or -).

Reactions w/ Anti-A Serum	Reactions w/ Anti-B Serum	Blood Type
Agglutination (+)	No Agglutination (-)	A
No Agglutination (-)	Agglutination (+)	B
Agglutination (+)	Agglutination (+)	AB
No Agglutination (-)	No Agglutination (-)	O

Agglutinins = Antibodies

Rh Serum = Clumping = Rh+ blood

Crime Summary

A small puddle of blood and a weapon was found near a garbage can. After examining the area, the CSI on the scene discovered a body in the garbage can and identified him as Earnest "One-Eyed" Earl. Earl had a wound to his chest that will be analyzed by the medical examiner.

The CSI tested blood samples from the puddle and weapon at the crime scene and determined that it was human blood, but he needs to know the blood type to help identify if it was from the victim or the person who murdered him. He has come up with three suspects that either knew the victim or were seen in the area before the body was discovered.

Follow the directions below to complete the lab. Remember to be careful to prevent cross-contamination of the blood samples!

Blood Samples – Follow the procedure below to test the four suspects' blood samples.

Step 1: Label the three cups in your kit as Anti-A, Anti-B, and Anti-Rh.

Step 2: Place 20 drops of the blood sample in each cup.

Step 3: Place 10 drops of the anti-A serum in the A cup.

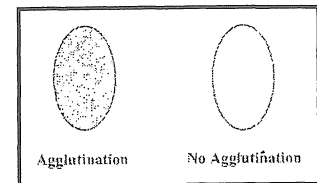
Step 4: Place 10 drops of the anti-B serum in the B cup.

Step 5: Place 10 drops of the anti-Rh serum in the Rh cup.

Step 6: Use three clean toothpicks to stir the serum into each sample for 30 seconds.

Step 7: Record your observations in the correct section on the back of the page and use the reaction chart at the top of this page to determine the blood type.

Step 8: Complete the other sections using information from your classmates.

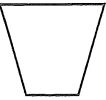
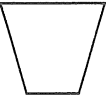
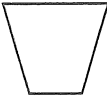


Agglutination = Clumping

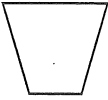
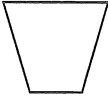
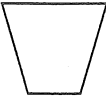
You should be able to see clumps form on the bottom of the cup, which means a positive result for that test.

Results

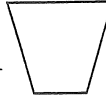
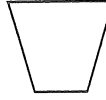
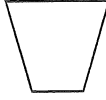
Record the results from each group in the space below. Use a + for a positive result (clumping) and a - for a negative result (no clumping).

A  Rh
B  

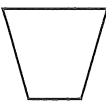
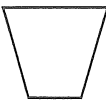
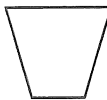
Suspect #1:
Bobby "Baby" Brooks
Blood Type: ___

A  Rh
B  

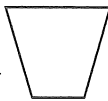
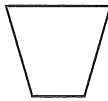
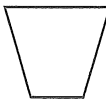
Suspect #2
"Slim" Jim Snoot
Blood Type: ___

A  Rh
B  

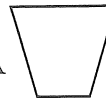
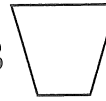
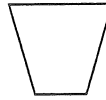
Suspect #3
Barbie "Doll" Jones
Blood Type: ___

A  Rh
B  

Victim
Ernest "One-Eyed" Earl
Blood Type: ___

A  Rh
B  

Crime Scene Sample
Blood Type: ___

A  Rh
B  

Weapon Sample
Blood Type: ___

Conclusion

What do your results show?

What would you do next in the investigation?

Blood Typing Lab – Forensics

Conclude and Apply

1. Whose blood was on the murder weapon? What are the possible genotypes for this blood?
2. Whose blood was found in the crime scene? What is a likely reason it would be found in the scene?
3. Who else's blood should be found in the crime scene? Is it possible that it is on the scene?