

Blood Typing Pre-Lab

Use the lab packet to answer the following questions IN COMPLETE SENTENCES!!!

1. What is an antigen?
2. What is an antibody? Where are antibodies located?
3. What does agglutination mean? What would cause blood to agglutinate?
4. What determines a person's blood type?
5. Copy and complete the antigen/antibody informational chart listing all the possible blood types and the corresponding antigens and antibodies.
6. Define antiserum
 - a. What antibodies does Anti-A Serum contain?
 - b. What about Anti-B serum?
7. If anti-A serum is put into blood and it agglutinates, what are the possible blood types of the sample?
8. If anti-B serum is put into blood and it agglutinates, what are the possible blood types of the sample?
9. What is the Rh factor?
10. Copy and complete the Rh informational chart.
11. If an anti-Rh serum is added to blood and the sample agglutinates, is it Rh positive or negative? Explain!
12. Copy the **data table** for tomorrow's lab (see the front board).

Blood Type (Genotype)	Type A (AA, Ao)	Type B (BB, Bo)	Type AB (AB)	Type O (oo)
ABO Antigens				
ABO Antibodies				

Blood Type (Genotype)	Rh + (RR, Rr)	Rh - (rr)
Rh Antigens		
Rh Antibodies		

DATA TABLE

Person	A agglutination	B agglutination	Rh Agglutination	Blood Type
<i>Example:</i>	<i>No</i>	<i>yes</i>	<i>No</i>	<i>B-</i>
Donor 1				
Donor 2				
Donor 3				
Donor 4				
Patient 1				
Patient 2				

RESULTS

Person	Blood type	Possible Genotypes	Blood types can donate to?	Blood types can accept from?
Donor 1				
Donor 2				
Donor 3				
Donor 4				

Conclusion Questions:

1. According to your results, which donor(s) can give blood to patient 1?
2. According to your results, which donor(s) can give blood to patient 2?
3. Which person in our lab is considered to be the universal blood donor? EXPLAIN using the terms antigen, antibodies and agglutination.
4. Which person is considered to be a universal recipient? EXPLAIN using the terms antigen, antibodies and agglutination.
5. What would happen to a Type O individual if they receive type A, B or AB blood? EXPLAIN using the terms antigen, antibodies and agglutination.
6. In an emergency situation how could you determine if two blood types are compatible? EXPLAIN using the terms antigen, antibodies and agglutination.
7. Can a Type B+ male and a Type AB- female have an offspring who is Type A +? Show your Punnett Squares to support your answer.
8. Can a Type O- male and a Type A+ female have an offspring who is Type O-? Show your Punnett Squares to support your answer.

Extensions:

9. Explain how the relationship between structure and function is demonstrated in red blood cells. If a person has sickle cell anemia, what is the problem?
10. DANGER: An Rh- mother is pregnant with an Rh+ baby. What is the danger involved? What happens if the blood mixes? If this were to happen with more than one child, why would the second Rh+ baby be in more danger than the first?