# Blood Typing Simulation Lab

## Agglutination Reactions

<table>
<thead>
<tr>
<th></th>
<th>Anti-A Serum</th>
<th>Anti-B Serum</th>
<th>Anti-Rh Serum</th>
<th>Blood Type</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slide #1</td>
<td>Mr. Smith</td>
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<tr>
<td>Slide #2</td>
<td>Ms. Jones</td>
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<tr>
<td>Slide #3</td>
<td>Mr. Green</td>
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<tr>
<td>Slide #4</td>
<td>Ms. Brown</td>
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</tbody>
</table>

*Note: A positive test is indicated by a strong agglutination (clumping) reaction.*

## Analysis of Results

### ABO Blood Group

1. What ABO agglutinogens are present on the red blood cells of Mr. Green’s blood?
2. What ABO agglutinins are present in the plasma of Mr. Green’s blood?
3. If Ms. Jones needed a transfusion, what ABO type(s) of blood could she safely receive?
4. If Ms. Brown were serving as a donor, what ABO blood type(s) could receive her blood safely?
5. Why is it necessary to match the donor’s and the recipient’s blood before a transfusion is given?
6. What happens to red blood cells that are agglutinated?
7. What is the difference between agglutinogen and agglutinin?
8. Explain the basis of ABO blood types.
9. Could a man with an AB blood type be the father of an O child? Why or why not?
10. Could a man with an O blood type be the father of an AB child? Why or why not?

11. Could a Type B child with a Type A mother have a Type A father?

12. What are the possible genetic combinations of an offspring when the blood types of the parents are A and B?

**Rh Blood Group**

1. Suppose Mr. Smith marries Ms. Brown. What are the chances for an Rh+ child? An Rh- child?

2. Explain how erythroblastosis fetalis (hemolytic disease of the newborn) may develop.

3. Under what conditions might a person with Rh- blood develop Rh agglutinins?

4. Why can Rh+ blood be given only once to a non-sensitized person who is Rh-?

5. What is likely to happen to a donor’s cells if an Rh- person who is sensitive to Rh+ blood receives a transfusion Rh+ blood?