

## Blood Typing

**Introduction:** This lab is a blood testing simulation; you will be using chemicals that simulate the behavior of blood reacting to antibodies. Blood type is determined using Antibodies A and B. These antibodies are added to the blood sample, which is then observed to see whether coagulation occurs. Coagulation is the term used to describe blood cells clumping together. Because this is a simulation, what you will actually be seeing is precipitation – a solid forming from two solutions being mixed together. The visual effect is very similar to that of coagulation.

**Purpose:** The purpose of the blood testing lab is to familiarize students with the procedure used to type blood. The students will also gain an understanding of how blood testing may be used in a criminal investigation.

**Materials:** well plates  
“blood” stained cloth  
vials of “blood”  
small pipets  
Antibodies A and B  
small beakers  
DI water

**Safety:** Wear safety glasses.  
Wear gloves when handling bodily fluids. (even simulated ones.)

### Procedure

#### Part 1: Testing Blood Samples

1. Using a small pipet, place half of the blood sample in one well of the wellplate.
2. Place the other half in another well.
3. Place three drops of Antibody A into one of the samples. Record your observations.

**Note: Be sure to use clean droppers or pipets for each substance to avoid contamination!**

4. Place three drops of Antibody B into the other sample. Record your observations.

#### Part 2: Testing Stained Cloth

1. Place stained cloth into a small beaker. Add a **small** amount of water.  
**Note: Using a large amount of water will dilute the sample so that the test results may be difficult to see.**
2. Stir with a stirring rod to extract the “blood.”
3. When the “blood” has been extracted, place some of the sample in 2 wells.
4. Repeat steps 3 and 4 from **Part 1**.

**Data:**

<b>Sample</b>	<b>Antibody Tested</b>	<b>Observations</b>
Blood Sample #	Antibody A	
Blood Sample #	Antibody B	
Stained Cloth	Antibody A	
Stained Cloth	Antibody B	

**Analysis:**

Type A blood coagulates only with Antibody A.

Type B blood coagulates only with Antibody B.

Type AB blood coagulates with both Antibodies A and B.

Type O blood does not coagulate with either Antibody A or B.

**Questions:**

1. What was the “blood” type of your sample? How do you know?
2. What was the “blood” type on the cloth? How do you know?