

# PhysioEx Lab Report

Exercise 11: Blood Analysis

Activity 4: Blood Typing

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Date: 1 April 2025

Session ID: session-f848944b-15d6-7adb-9b82-724549691fe6

## Pre-lab Quiz Results

You scored 100% by answering 4 out of 4 questions correctly.

**1** Red blood cell membranes have

You correctly answered: agglutinogens that specify that individual's blood type.

**2** ABO and Rh antigens

You correctly answered: All of these answers are correct.

**3** Which of the following statements about blood types is correct?

You correctly answered: A person with type O blood has two recessive alleles and has neither the type A nor type B antigen.

**4** Antibodies to the A and B antigens are

You correctly answered: found preformed in the blood plasma.

## Experiment Results

### Predict Question

**1** Predict Question: If the patient's blood type is AB<sup>+</sup>, what would be the appearance of the A, B, and Rh samples?

Your answer: A, clumped; B, unclumped; Rh, clumped.

### Stop & Think Question

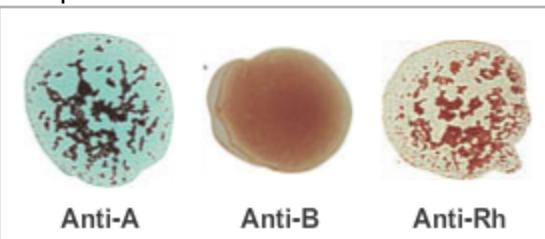
**1** Why are individuals with the AB<sup>+</sup> blood type known as universal recipients for blood transfusions?

You correctly answered: They have both A and B antigens on the surface of their RBCs, and their blood serum does not contain antibodies against A, B, or Rh antigens.

## Experiment Data

Blood sample	Agglutination with Anti-A Serum	Agglutination with Anti-B Serum	Agglutination with Anti-Rh Serum	Blood Type	Rh factor
1	positive	negative	positive	A	+
2	negative	positive	positive	B	+
3	positive	positive	negative	AB	-
4	negative	negative	negative	O	-
5	positive	positive	positive	AB	+
6	negative	positive	negative	B	-

Sample 1



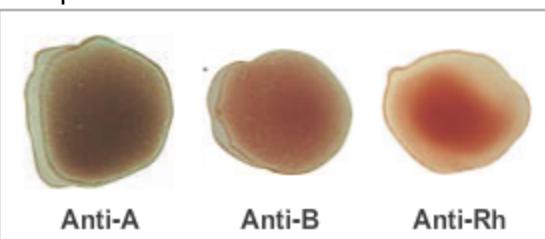
Sample 2

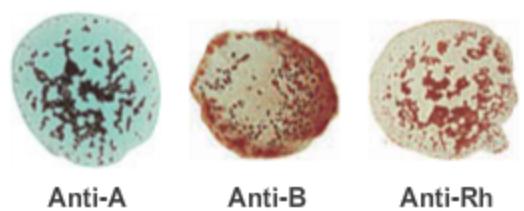


Sample 3



Sample 4



**Sample 5****Sample 6**

## Post-lab Quiz Results

You scored 100% by answering 4 out of 4 questions correctly.

- 1** To determine an individual's blood type, drops of the blood sample are mixed

You correctly answered: separately with antiserum containing antibodies that recognize either type A antigens, type B antigens, or Rh antigens.

- 2** Agglutination

You correctly answered: All of these answers are correct.

- 3** Antigens

You correctly answered: are present on all cells.

- 4** ABO and Rh agglutinogens

You correctly answered: cause the most vigorous and potentially fatal transfusion reactions.

## Review Sheet Results

- 1** How did the appearance of the A, B, and Rh samples for the patient with AB<sup>-</sup> blood type compare with your prediction?

Your answer:

My prediction was incorrect the correct series would be A, clumped, B clumped, and Rh unclumped.

**2** Which blood sample contained the rarest blood type?

Your answer:

AB-.

**3** Which blood sample contained the universal donor?

Your answer:

O-.

**4** Which blood sample contained the universal recipient?

Your answer:

AB+.

**5** Which blood sample did not agglutinate with any of the antibodies tested? Why?

Your answer:

Sample 4 did not agglutinate with any of the antibodies tested. This is because none of the antigens were present.

**6** What antibodies would be found in the plasma of blood sample 1?

Your answer:

Anti-B antibody.

**7** When transfusing an individual with blood that is compatible but not the same type, it is important to separate packed cells from the plasma and administer only the packed cells. Why do you think this is done? (Hint: think about what is *in plasma* versus what is *on RBCs*.)

Your answer:

The plasma contains the antibodies that could react with the recipients antigens on RBC's.

**8** List the blood samples in this activity that represent people who could donate blood to a person with type B<sup>+</sup> blood.

Your answer:

B+(sample 2), B-(sample 6), O-(sample 4).