

## Blood Transfusion Inquiry Reading

### Objective:

After reading and completing this work set, you should be able to:

- Understand the reasoning in why some blood type combinations can or cannot be transfused with each other
- Identify the universal donor and recipient
- Be able to complete donors

## **Blood transfusion**

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In order to fully understand blood transfusion, you must understand the science behind each blood type. Recall, the reasoning behind each blood type (A, B, AB, O and with Rh) is due to the protein found on the surface of red blood cells. These proteins are called *antigens*. However, in addition to antigens, every blood type will also have *antibodies* found in the plasma. The *antibodies* are found to act as a defense mechanism to protect the body because the role of *antibodies* are to simply “seek out and destroy” by combining with the specific *antigen* that the *antibodies are* coded for. Yes, it sounds confusing, here’s the breakdown:

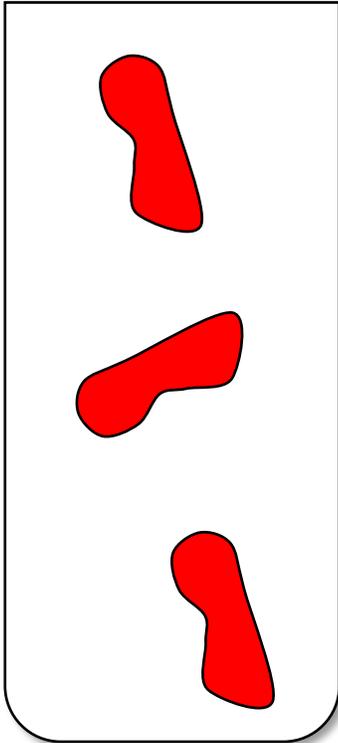
Type A blood:	Has A-antigen	But has Anti-B antibody  If anti-B antibody comes in contact with B-antigen, it will clump
Type B blood:	Has B-antigen	But has Anti-A antibody  If anti-A antibody comes in contact with A-antigen, it will clump
Type AB blood:	Has A-antigen  And B-antigen	But has NO antibodies because otherwise it would clump to itself!
Type O blood:	Has NO antigens	But has both Anti-A and Anti-B antibody  So if either A-antigen or B-antigen were to come in contact, it will clump

### Test your understanding:

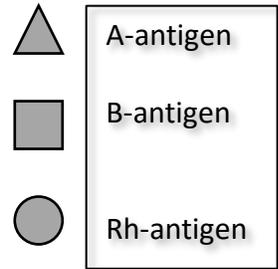
1. What is the difference between *antigens* and *antibodies*?
2. What is the purpose of antibodies?
3. What antibodies are found in type AB blood? What blood antigens will it clump with?



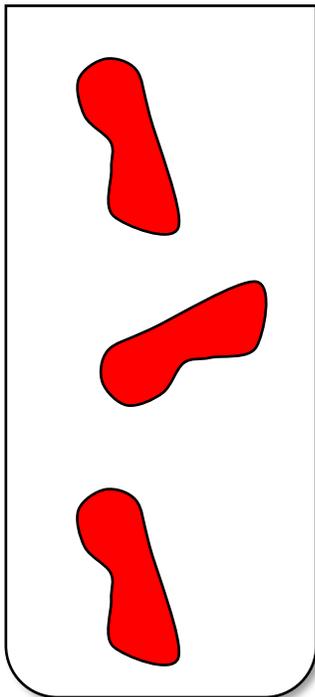
Let's visually see this!



This is Type – AB+ blood, draw the *antigens* present on the red blood cells and the *antibodies* found in the plasma.



Now, determine what type(s) of blood that can be donated to this blood type?



This is Type – O- blood, draw the *antigens* present on the red blood cells and the *antibodies* found in the plasma.

Now, determine what type(s) of blood that can be donated to this blood type?

Self-assessment: How well do you understand the science behind the blood types? How do you know?