Notes: Blood Types

# Blood Types

Determined by blood \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. The antigens are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ markers or bumps on the surface of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. There are three main antigens (proteins)
     1. \_\_\_\_\_\_\_
     2. \_\_\_\_\_\_\_
     3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Rhesus factor) which determines positive/negative

If we combine these different antigens, there are \_\_\_\_\_ different blood types possible in humans:

* \_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_

**What does this mean?**

If you are blood type A:

* You have the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(protein)

If you are blood type B:

* You have the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (protein)

If you are blood type AB:

* You have both the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If you are blood type O:

* You don’t have either antigen (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

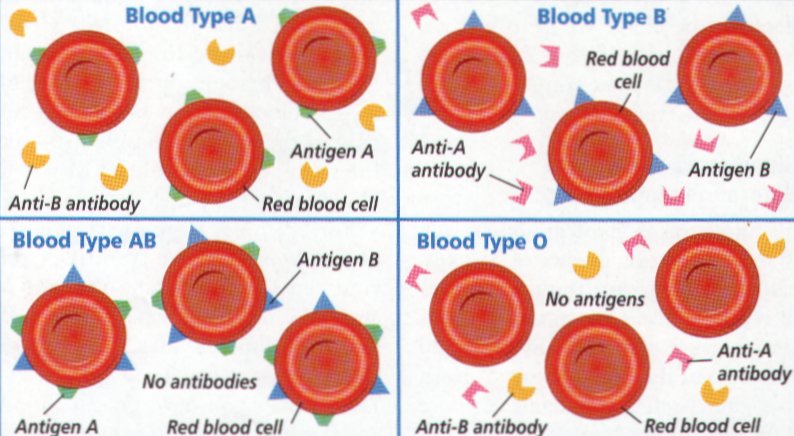
Then if you have a “\_\_\_\_\_\_” it means you also have the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Ex: if you are \_\_\_\_\_\_\_\_\_\_you have the \_\_\_\_\_\_\_ antigen and the \_\_\_\_\_\_\_ antigen

If you have a “\_\_\_\_\_” it means you \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ antigen

* Ex: if you are \_\_\_\_\_\_\_\_\_you only have the\_\_\_\_\_\_\_antigen

# Antigens and Antibodies



**What are antibodies?**

They’re \_\_\_\_\_\_\_\_\_\_\_\_\_\_ used by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ system to \_\_\_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ unwanted things in the blood

* They’re like the blood’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_! They attack anything that’s not supposed to be there

For every blood type there are \_\_\_\_\_\_\_\_\_\_\_\_\_\_ for the other types.

* For example, if you are \_\_\_\_\_\_\_
  + You have the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + You don’t want \_\_\_\_\_\_\_ blood so you have \_\_\_\_\_\_\_\_\_\_\_\_\_\_antibodies

|  |
| --- |
| I CANNOT RECEIVE WHAT \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

# Determining Blood Type

* 1. Place 2 drops of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_on each spot of the spot plate.
  2. Add 2 drops \_\_\_\_\_\_\_\_\_\_\_\_\_\_to spot A, 2 drops of \_\_\_\_\_\_\_\_\_\_\_\_\_\_to spot B and 2 drops of \_\_\_\_\_\_\_\_\_\_\_\_\_\_to spot Rh.
  3. When \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_happens, the RBC has the \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

- If it clumps it’s because the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_found the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ they are there to protect against

* 1. Record your results.

**Test Results**

**ABO Blood Reactions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A | B | AB | O |
| Anti-A |  |  |  |  |
| Anti-B |  |  |  |  |

# Blood Transfusions

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_into a person

* Recipient -> \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (gets) blood
* Donor -> \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (gives) blood

The recipient \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_blood with \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_in his/her own blood.

Blood will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (coagulate/clump) if it is mixed with blood having foreign \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Universal Donor**

* Is blood type \_\_\_\_\_\_
  + Can give to every blood type since it has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Universal Recipient**

* Is blood type \_\_\_\_\_\_\_
  + Can receive every blood types since it has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Blood Compatibility Chart

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Donor Blood Type** | | | | | | | |
| O- | O+ | A- | A+ | B- | B+ | AB- | AB+ |
| **Recipient Blood Type** | AB+ |  |  |  |  |  |  |  |  |
| AB- |  |  |  |  |  |  |  |  |
| B+ |  |  |  |  |  |  |  |  |
| B- |  |  |  |  |  |  |  |  |
| A+ |  |  |  |  |  |  |  |  |
| A- |  |  |  |  |  |  |  |  |
| O+ |  |  |  |  |  |  |  |  |
| O- |  |  |  |  |  |  |  |  |