

Blood types

- A **blood type** (also called a **blood group**) is a classification of blood based on the presence or absence of inherited antigenic substances on the surface of red blood cells

Blood types

There are four major blood types: **A**, **B**,
AB,
and **O**



Antigens

- There are two antigens, **A** and **B**. If you have the **A** antigen on the RBC, then you have type **A** blood.
- When **B** antigen is present, you have type **B** blood.

Antigens

- When both **A** and **B** antigens are present, you have type **AB** blood.
- When neither are present, you have type **O** blood.

Rh blood group



- In addition to the ABO blood group system, there is an **Rh blood group** system
- The **D antigen** is the most common Rh antigen. If the D antigen is present, then that blood is Rh+. If the D antigen is missing, then the blood is Rh-.

Blood compatibility

- Not all blood types are compatible
- There are *universal donors* and *universal recipients*

In terms of RBC

- **O-** (universal donor blood)
- **AB +** (universal recipient)

In terms of plasma

Plasma extracted from type AB blood can be transfused to individuals of any blood group, but type O plasma can be used only by type O recipients

Blood compatibility chart

Red blood cell compatibility table^{[31][32]}

Recipient ^[1]	Donor ^[1]							
	O-	O+	A-	A+	B-	B+	AB-	AB+
O-	✓							
O+	✓	✓						
A-	✓		✓					
A+	✓	✓	✓	✓				
B-	✓				✓			
B+	✓	✓			✓	✓		
AB-	✓		✓		✓		✓	
AB+	✓	✓	✓	✓	✓	✓	✓	✓