BLOOD

People tend to think of "blood" as a liquid, but 45% of the blood is made up of tangible cellular components called blood cells. Blood cells include "red blood cells" that carry oxygen, "white blood cells" that attack invading bacteria and viruses, and "platelets" that gather during bleeding such as trauma to prevent bleeding. The remaining 55% is the liquid component "plasma," which also plays an important role in transporting nutrients.

≪ RED BLOOD CELLS ≫

• Red blood cells do not have a nucleus and have a disk shape with a hollow center. Hemoglobin occupies most of this red blood cell component and is responsible for transporting oxygen.

The word Haemoglobin comes from the Greek haem- meaning "blood" and -globin meaning "protein"

• Anemia is a condition in which you lack enough healthy red blood cells to carry adequate oxygen to your body's tissues. Having anemia, also referred to as low hemoglobin, can make you feel tired and weak. See your doctor if you suspect that you have anemia. It can be a warning sign of serious illness.

≪ WHITE BLOOD CELLS ≫

White blood cells are blood cells that are responsible for the immune response against harmful bacteria and viruses. There are many types of white blood cells which:(1) works to digest, sterilize, and dissolve foreign substances such as bacteria and viruses (2) Functions related to toxin



≪ Platelets ≫

Platelets, or thrombocytes, are small, colorless cell fragments in our blood that form clots and stop or prevent bleeding.

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≪ Plasma≫

Blood plasma is a light yellow liquid that makes up about half of a person's blood. Blood plasma contain nutrients and enzymes maintaining correct blood pH levels, helping blood to clot, and transporting and eliminating waste products.

When blood is placed in a test tube and centrifuged, a yellow liquid component is formed at the top. This is plasma.

Plasma contains many nutritional components such as • proteins (albumin, fibrinogen, immunoglobulin) • lipids / sugars (glucose) • inorganic salts (calcium, sodium, potassium, magnesium, iron, copper, phosphorus, etc.).





Blood Types

Your ABO type is based on the presence or absence of two antigens (A and B) on the surface of red blood cells. There are four ABO types: A, B, AB and O.

Your blood type is also determined by <u>Rh status</u>: Rh+ or Rh-.

Blood types determine who you can give blood to and receive blood from. Before a person receives donated blood, doctors will check that this blood is compatible. Giving someone the wrong blood type can lead to potentially life-threatening reactions and complications.

For example, when type B blood is transfused into a type A person, the antibodies contained in the type B blood attack the type A antigens. Therefore, as a general rule, blood transfusions should be performed between the same blood types. However, only O-type blood does not cause this reaction when transfused to people of other blood types. Since O-type red blood cells do not have antigens, they are not attacked by antibodies contained in blood of other blood type recipients. Therefore, in an emergency, O-type blood may be transfused regardless of the recipient's blood type.

	Group A	Group B	Group AB	Group O
Red blood cell type			AB	
Antibodies in Plasma	JY∠ ZY≻ Ant-B	Anti-A	None	Anti-A and Anti-E
Antigens in Red Blood Cell	9 A antigen	† B antigen	PT A and B antipens	None

	Magnus Supplements				
Ginkgo SRP\$84/	CoQ10 Max 90 caps	Healthy blood and blood circula- tion			
	SRP\$40 60 caps Super Garlic Plus	Vitamin C SRP\$16 100 tabs	+		



