



MOHANLAL  
SUKHADIA  
UNIVERSITY  
UDAIPUR



DEPARTMENT  
OF  
ZOOLOGY

# Topic

# Blood Group Test

*B.Sc. 3<sup>rd</sup>*

*Practical of Zoology*

*By*

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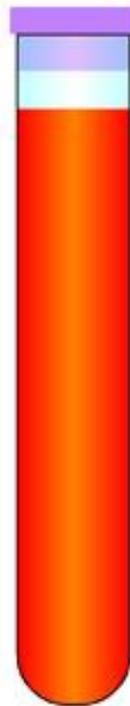
*Mohanlal Sukhadia University, Udaipur (Raj.)*

Lavender-top tube containing EDTA



Draw blood

Tube containing whole blood



Centrifuge



~55%  
Plasma  
volume

< 1%  
Buffy coat  
(white cells and  
platelets)

~45%  
Hematocrit  
(packed red  
cell volume)

100%

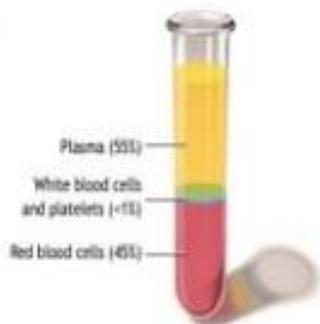
## 2. Plasma vs. serum

• **Plasma** is the liquid, cell-free part of blood, that has been **treated with anti-coagulants**.

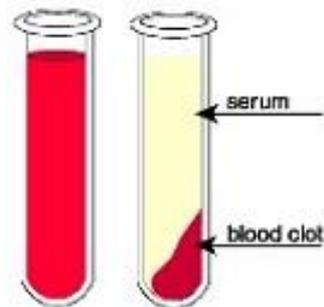
Anticoagulated

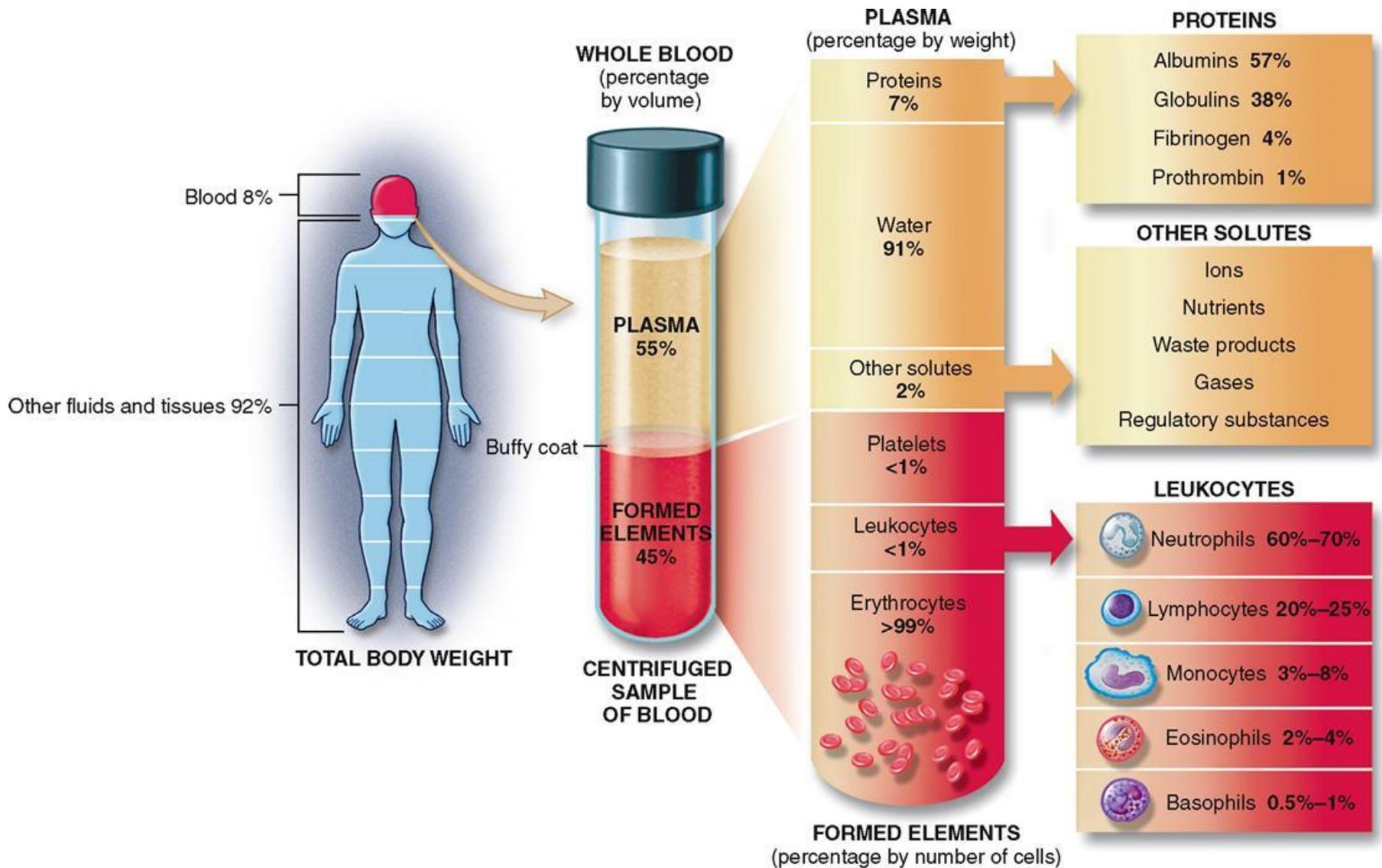
**Serum** is the liquid part of blood **AFTER coagulation**, therefore devoid of clotting factors as fibrinogen.

Clotted

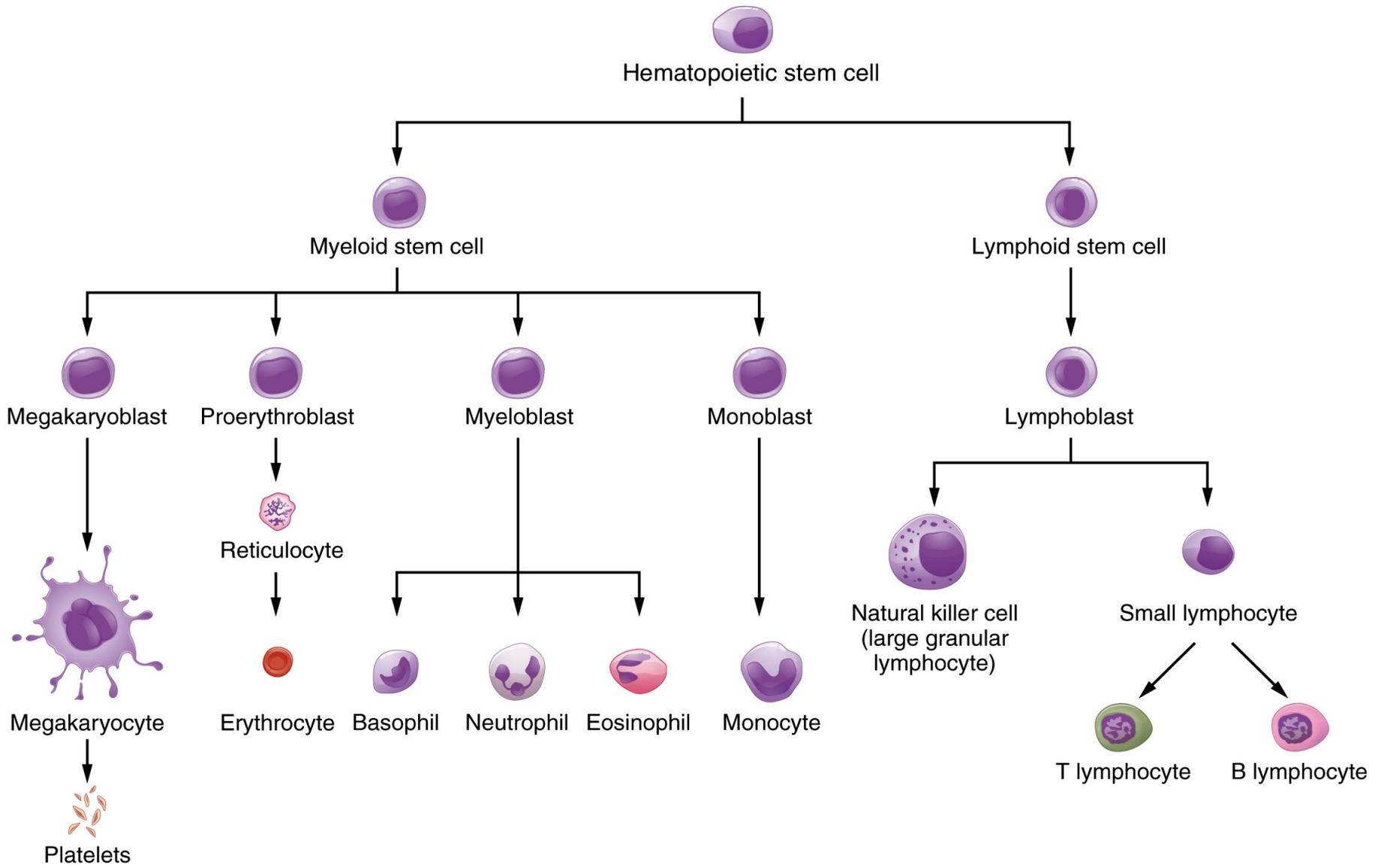


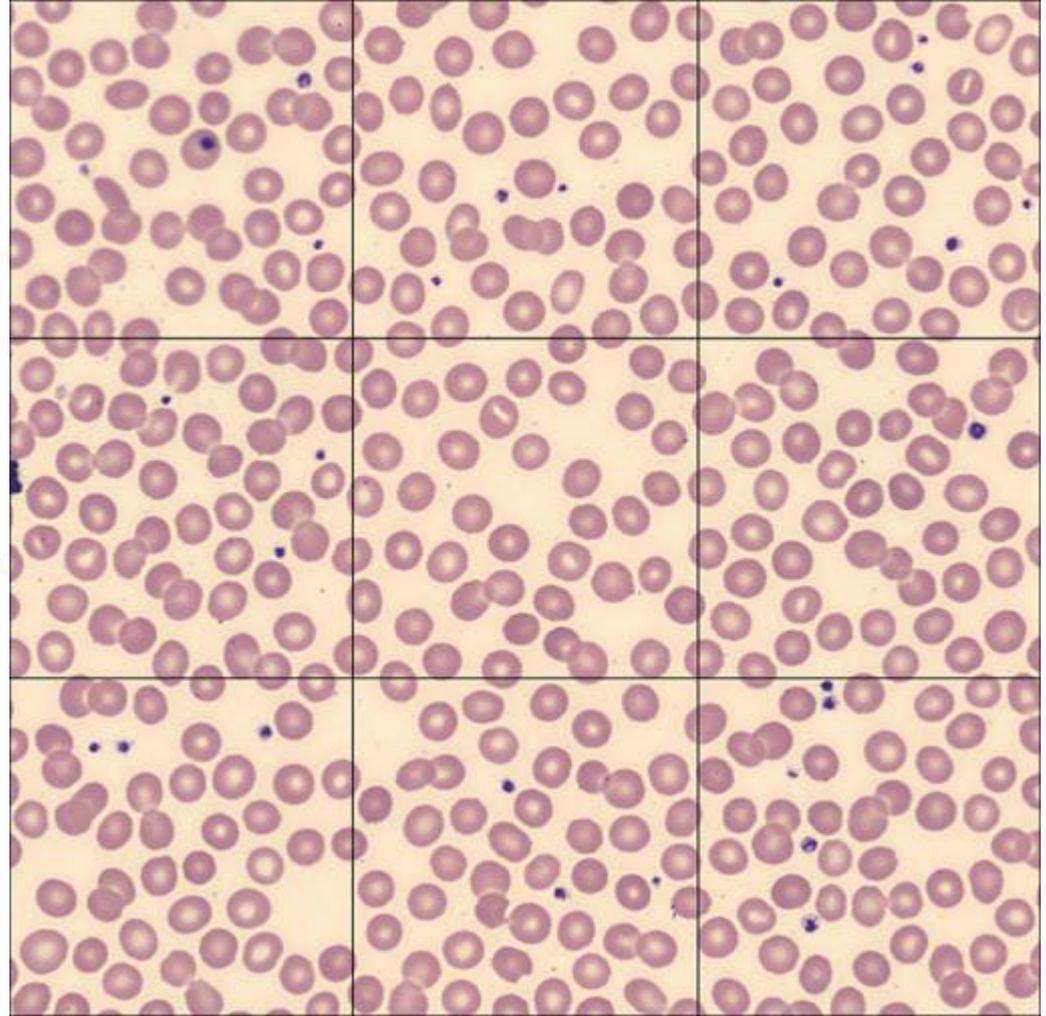
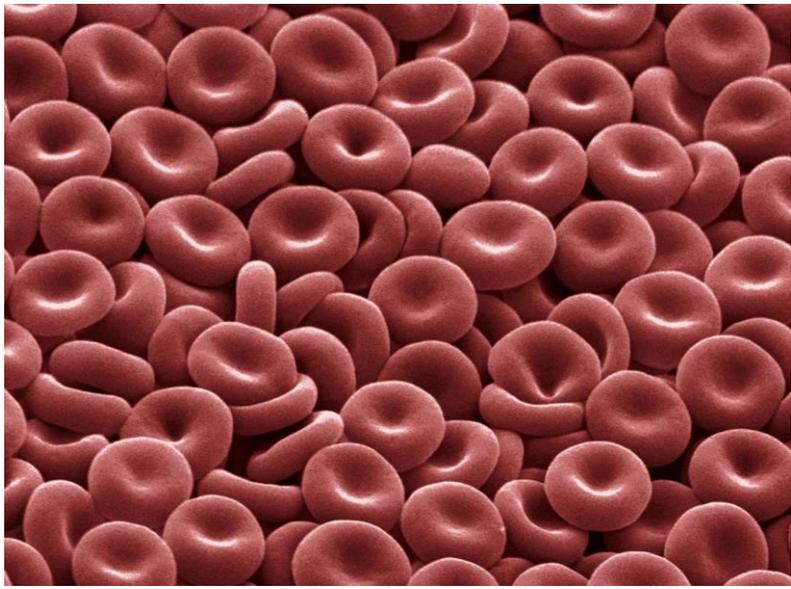
• serum = plasma - fibrinogen





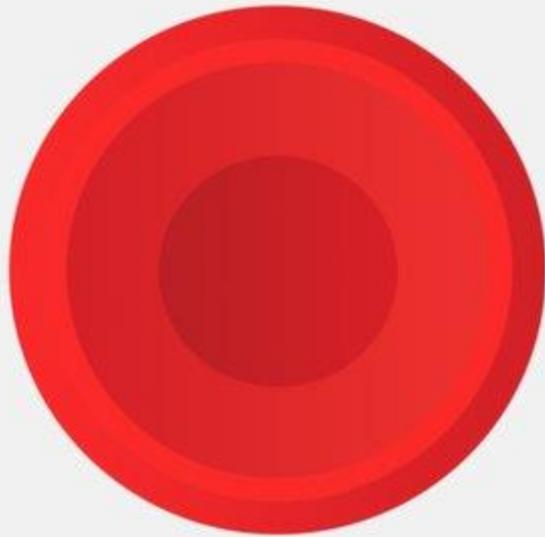
<b>Parameter</b>	<b>Normal Range (men)</b>	<b>Normal Range (women)</b>
Hematocrit	42–52%	36–48%
White Blood Cell (WBC)	5,000–10,000/mL	5,000–10,000/mL
Red Blood Cell (RBC)	4.5–5.5x10 <sup>6</sup> /mL	4.0–5.0x10 <sup>6</sup> /mL
Platelet	1.4–4.0x10 <sup>5</sup> /mL	1.4–4.0x10 <sup>5</sup> /mL





Pradeep J  
Department

Top view

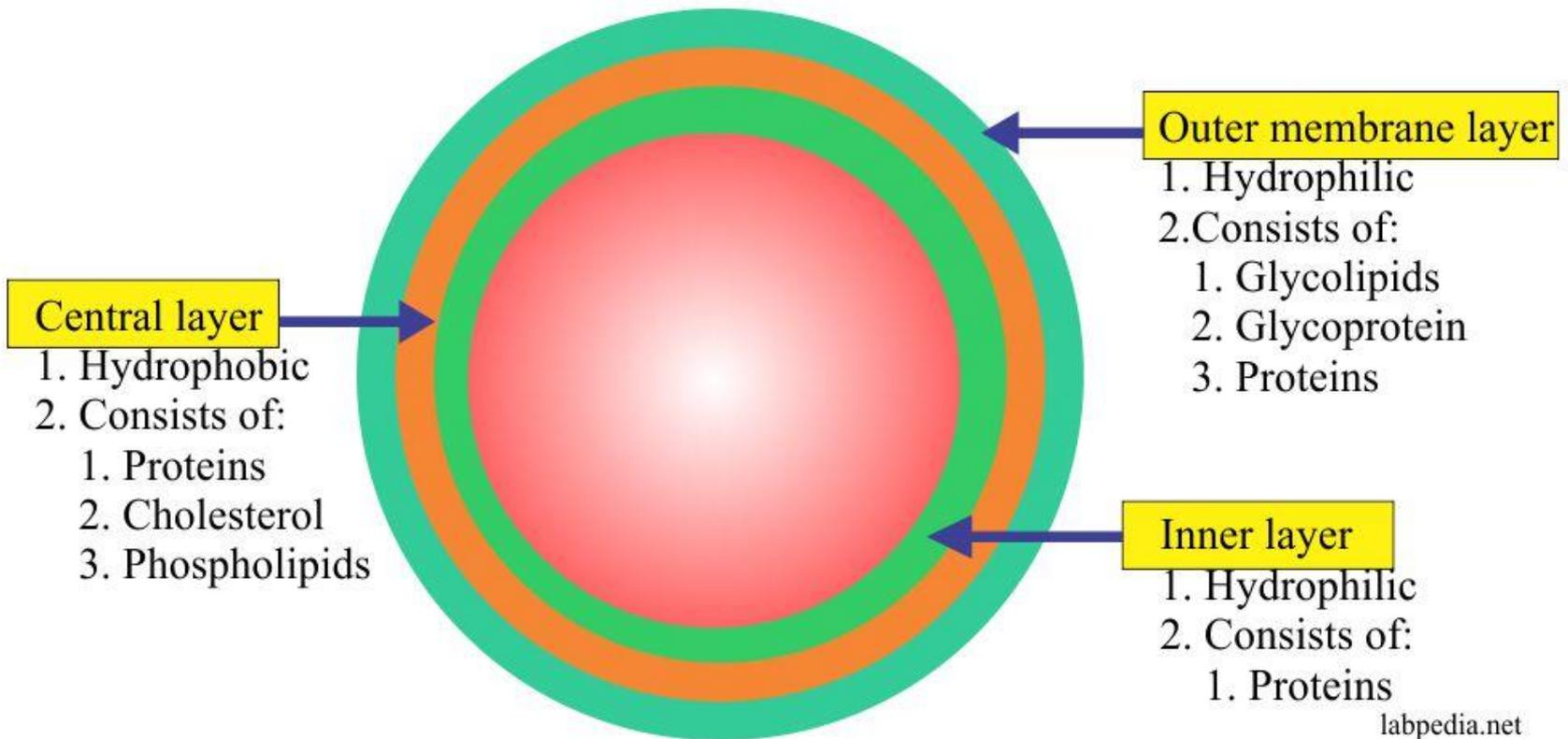


Cross section



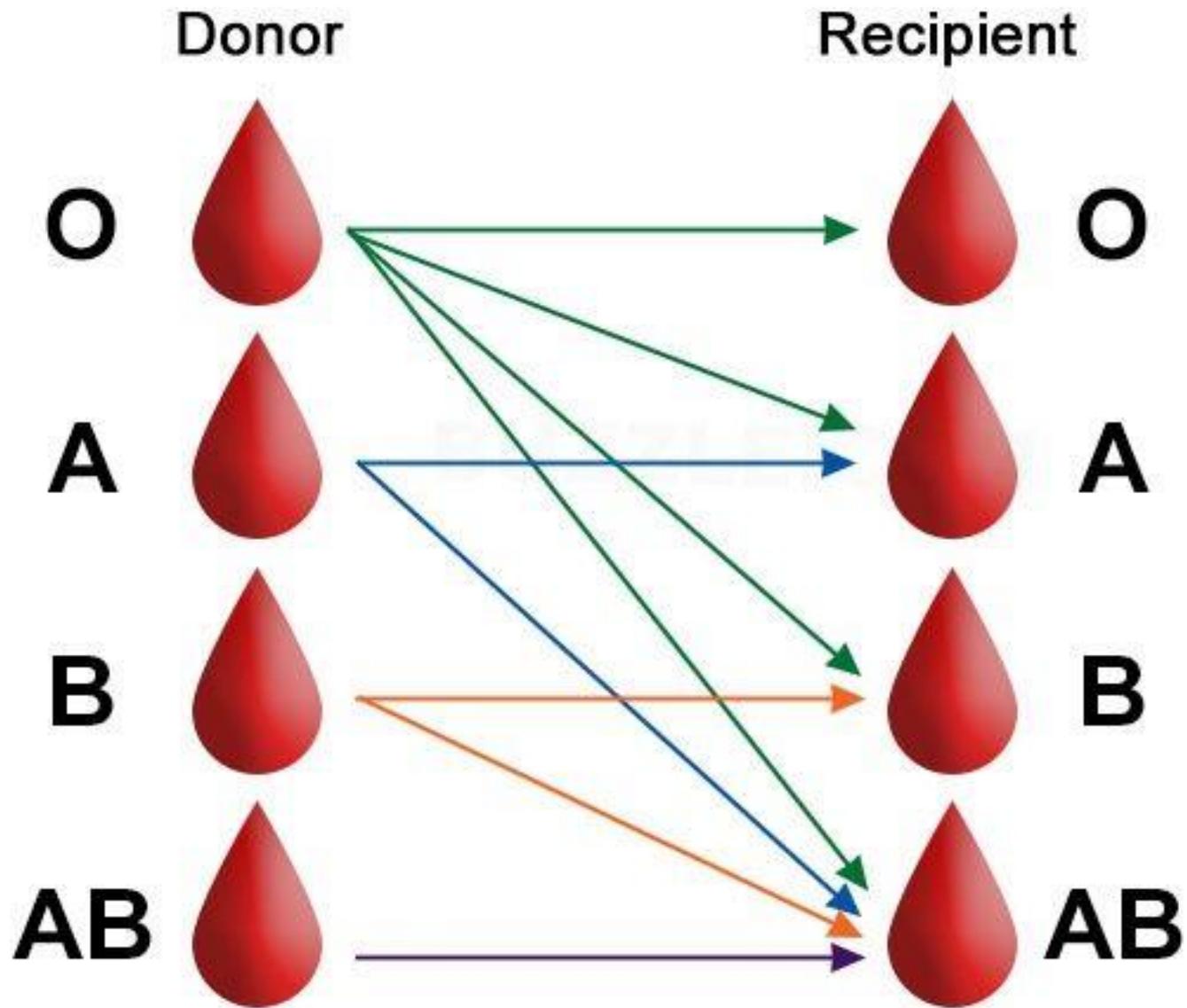
**Red blood cell membrane is:**

1. Highly elastic
2. Can have large membrane extensions without fragmentation



# ABO Blood Groups

<b>Antigen</b> (on RBC)	Antigen A 	Antigen B 	Antigens A+B 	Neither A or B 
<b>Antibody</b> (in plasma)	Anti-B Antibody 	Anti-A Antibody 	Neither Antibody -	Both Antibodies 
<b>Blood Type</b>	<b>Type A</b> Cannot have B or AB blood  Can have A or O blood	<b>Type B</b> Cannot have A or AB blood  Can have B or O blood	<b>Type AB</b> Can have any type of blood  Is the universal recipient	<b>Type O</b> Can only have O blood  Is the universal donor





Thank You