

جامعة الانبار

كلية : الصيدلة

قسم : فرع الادوية والسموم

اسم المادة باللغة العربية: فسلجة عملي

اسم المدة باللغة الإنكليزية: **physiology lab.**

المرحلة: الثانية

التدريسي: مروة شكيب ذنون

عنوان المحاضرة باللغة العربية: مجاميع الدم

عنوان المحاضرة باللغة الإنكليزية: **ABO-D SYSTEM ; BLOODTYPIN**

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## **ABO-D SYSTEM ; BLOODTYPINGCROSS MATCHING**

### **BLOOD GROUPS IMPORTANCE**

- In blood transfusion .
- In preventing haemolytic disease( Rh incompatibility).
- In paternity disputes.
- In medico-legal cases .
- In knowing susceptibility to disease
- Group O -duodenal cancer.
- Group A -CA Of stomach , Pancreas& salivary glands .

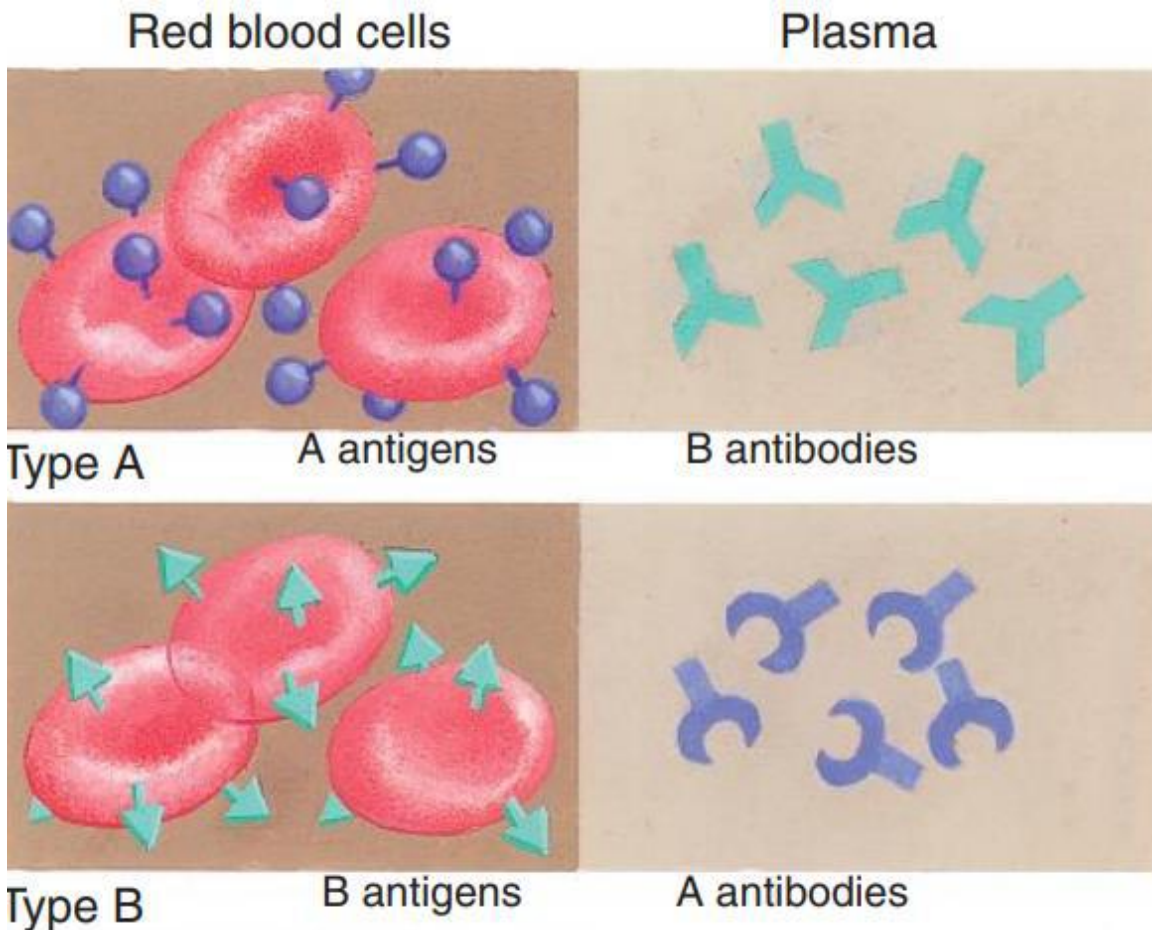
## BLOOD GROUPING ABO SYSTEM

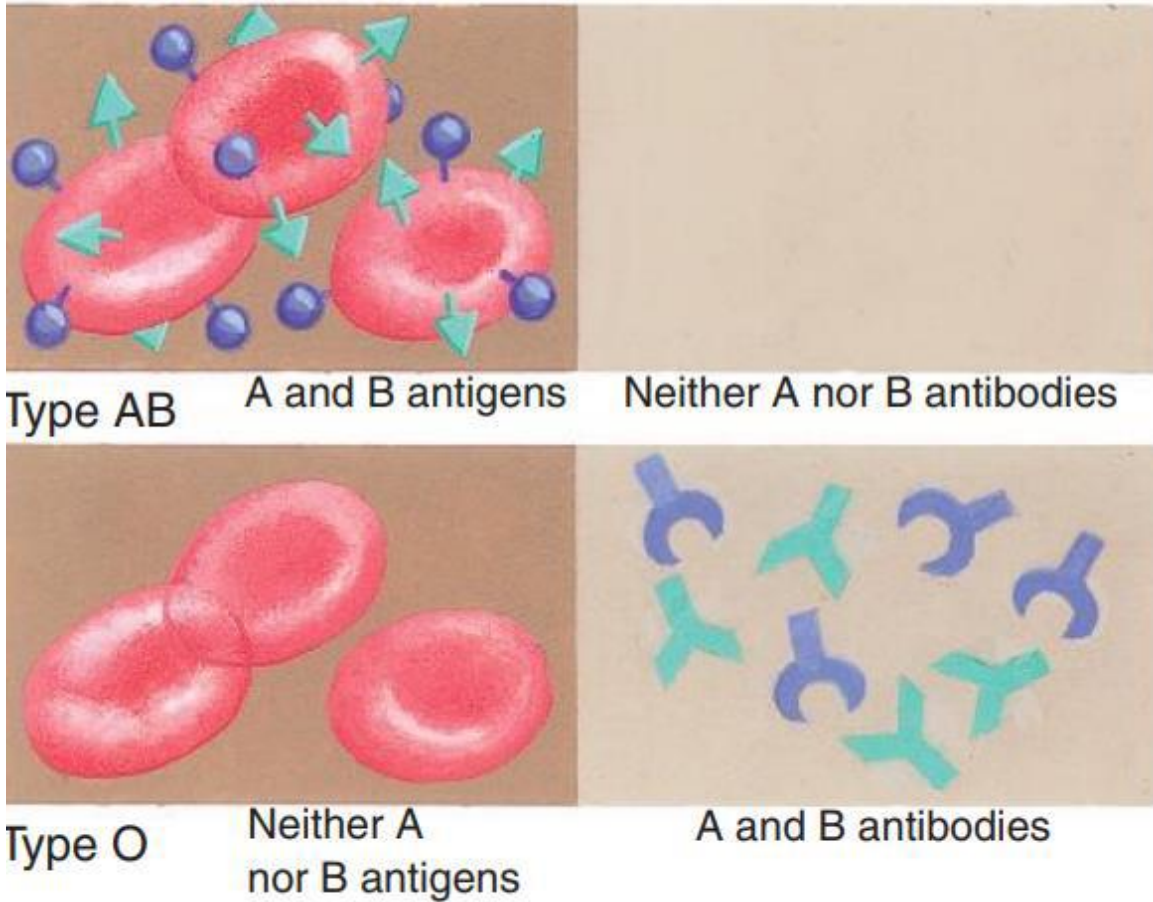
1. The RBCs cell membrane contain a series of antigens ;A, B, ..... known as agglutinogens ,

2. the plasma contains antibodies known as agglutinins ( Anti-A , Anti-B ) Of IgM type .

\*\*\* IgM type \*( Does not cross the placental barrier \*\*\*\*) .

□ ABO grouping test : Is designed o find out a person's blood group .





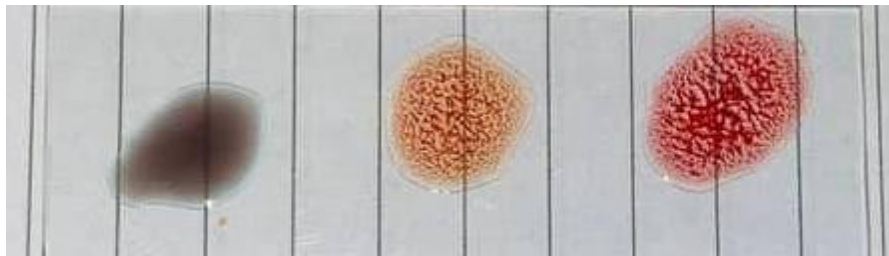
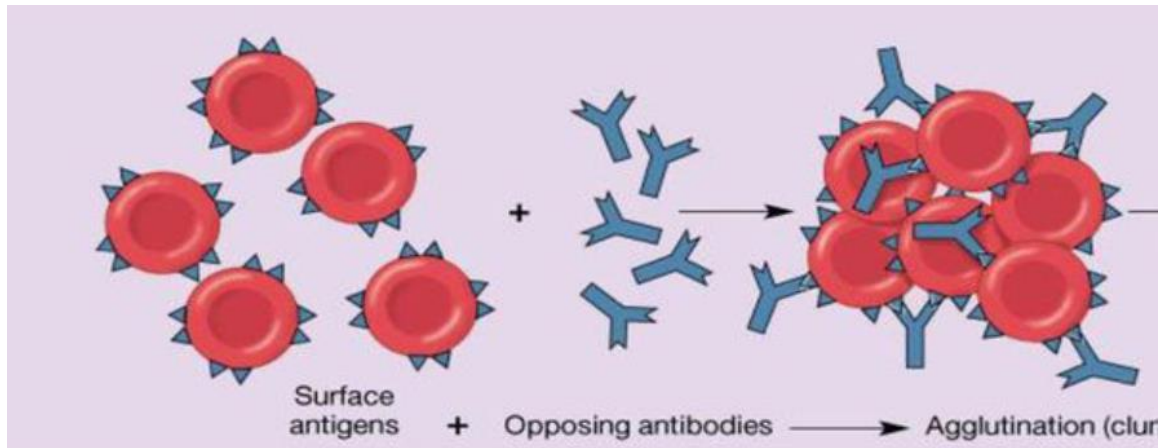
**BLOOD GROUPING RH (D) ANTIGEN**

**Important in the females of child-bearing age.**

- was first discovered in blood of rhesus monkey.
- Only detected On RBC membrane
- No Ab in plasma usually but in sensitized mother develop Rh-antibody (IgG type antibody)  
 \*\*\*\* (IgG type antibody) can cross the placental barrier \*\*\*\*)
- C, D, E Ag ( D is the most immunogenic );
- RBC with D protein = Rh+
- RBC without D protein = Rh-

•( 85% of Caucasoids , 95% black American ,99% of Chinese &100% of black afrecansare Rh+

## AGGLUTINATIONINBLOOD TYPING



**Agglutination** is the reaction between RBCs **antigens**(agglutinogens) plus plasma **antibodies**known as (agglutinins).

□ **This reaction in vitro ( slide ) may be used to Diagnosis of Blood type; ABO-D type ;RBCs are made to react with sera containing known agglutinins ( Ant-A, Ant-B & Anti-D).**

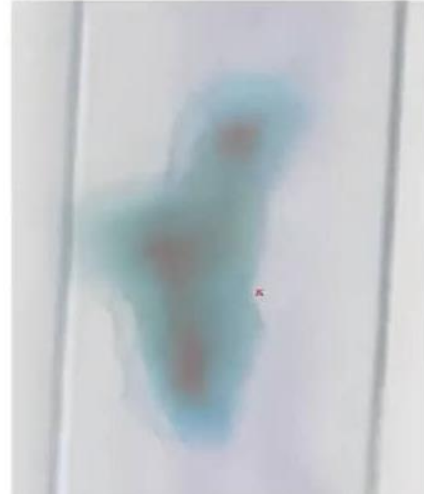
## REAL AGGLUTINATION VS FORMATION

Agglutination  
present



## ROULEAUX

Rouleaux  
formation



**Rouleaux formation ;RBC are aggregate over each others like a column .**

- Occur in bad technique or an increase in fibrinogen as acute phase reactant proteins ( **Fibrinogen, CRP, Ferritin**).
- An increase in fibrinogen will neutralise the everting negative charge on RBCcell membrane lead to thisaggregation ;after 1houre can be labelled as ( Elevated ESR ; Inflammatory prognostic marker )**



Untreated blood	Treated with anti-A serum	Treated with anti-B serum	Blood type
			A
			B
			AB
			O