

## BLOOD GROUPS IN HUMAN

Blood groups represent the presence of specific antigens in the blood. ABO System of blood is universally accepted. The other system is rhesus system which is found in the rhesus monkey.

ABO System: It is divided into four types which can easily be represented by table:

Blood groups with their Antigens and Antibodies

Blood group	antigen in RBC	Antibodies in Plasma
A	A	Anti B
B	B	Anti A
AB	A and B	Absent
O	Absent	Anti A and B

Blood groups and their possible combinations in blood transfusions! —

Blood group	can be given to	can receive blood from
A	A, AB	A and O
B	B, AB	B and O
AB	AB	All groups
O	All groups	O

## Blood group determination

Blood group	Serum A	Serum B
A	-	-
B	+	-
AB	+	+
O	-	-

- no agglutination

+ means agglutination (clumping)

Rhesus System: Landsteiner and Weiner (1940)

found specific antigens in RBCs of rhesus monkey. The name was given to this antigen as rhesus factor (RH factor). Later on it was shown that most human beings (85%) also have this factor and said to be RH positive, while only 15% are RH negative. 93% Indian population is RH+, while the rest 7% is RH-, and RH+ bloods are incompatible and cannot be mixed, thus they cannot be given to a patient having different RH factor.

## Significance of Blood groups

1. It is very important in blood transfusion.
  2. It helps in solving the disputed parentage problem in medico-legal cases.
  3. It furnishes the best example of multiple alleles.
  4. Haemolytic disease of the new born.
  5. Study of physical anthropology.
  6. Relationships of blood groups and susceptibility to various diseases.
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