

BEST PRACTICES

Department of zoology conducted Blood group identification test to B.Sc I year students on 22-02 2022 by final year students

Format for presentation of Best Practices

1. **Title of the practice:**

Blood group identification test of B.Sc I year students by final year students

2. **Objectives of the practice:**

- To learn the concept of blood grouping of different ABO blood group systems
- To determine blood group type.
- To learn the practical procedure
- To safely donate blood or receive a blood transfusion in emergency conditions

3. **The context:**

Human beings mainly have four types of blood groups: A, B, AB, and O. The system for differentiating the blood group was given by Karl Landsteiner, an Austrian biologist in the year 1901. The type of blood group a person has is mainly determined by the presence or absence of the antibodies and the antigens on the surface of **Erythrocytes**, which are also known as our red blood cells.

In case of some emergencies and accidents, patients need a blood transfusion and to select the appropriate blood for transfusion, it is important for the doctors to know what the patient's blood group is.

The main purpose of this practice is to learn the concept of blood grouping of different ABO blood group systems and to determine blood group type.

4. **The practice:**

B.Sc final year students conducted the blood group identification test to I year students, nearly 20 students tested their blood groups by the following procedure

Firstly they cleaned their left hand finger with the help of sterilized cotton which is dipped into the surgical spirit. Then gave a sharp prick at the tip of the cleaned finger with the help of sterilized needle. Discard the first collect 3 drops of into the 3 cavities of glass cavity slide. Then immediately add a drop of antisera-A to the first cavity, add antisera-B to the second cavity, and add third drop of blood in third cavity respectively. Mixed the blood and

antisera with the help of glass rod. Blood group can be identified after 5-10 min of mixing by the observation the agglutination.

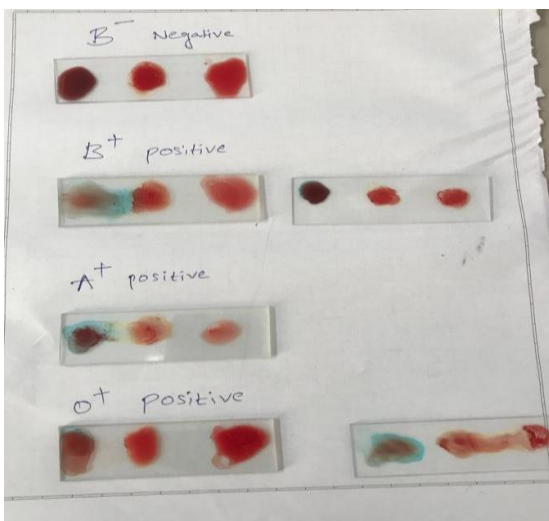
If agglutination seen in the slide with anti-D serum it is Rh+ve and no agglutination is seen in the slide with anti-D serum, it is Rh-ve



Things to Remember

There are four major blood groups and eight types collectively called the ABO blood group system.

- The grouping of blood types is done based on the presence or absence of specific **antigens** and antibodies i.e., Anti-A and Anti-B
- Blood groups include –
 1. Group A – Antigen A and Antibody B
 2. Group B – Antigen B and Antibody A
 3. Group AB – Both Antigen A and B and no Antibody.
 4. Group O – No Antigens and Both A and B Antibodies.
- Based on the presence of the third kind of Antigen, the RH factor, the above four blood groups are classified into eight different blood groups.
 1. A positive – Presence of RH+
 2. A negative – Presence of RH-
 3. B positive – Presence of RH+
 4. B negative – Presence of RH-
 5. AB positive – Presence of RH+
 6. AB negative – Presence of RH-
 7. O positive – Presence of RH+
 8. O negative – Presence of RH-



5.Evidence of success:

Nearly 20 students of B.Sc I year , who are not known about their blood groups are identified their blood groups and also learned the practical procedure of blood group identification test. The following are the students details:

s/no	Name of the student	Blood group
1	Vaddepalli Sneha	O +ve
2	Gangula Aravind	O +ve
3	Chiguru Lavanya	A+ve
4	K Vijay Kumar	O +ve
5	Jangapally Ramya	O +ve
6	Ch Shirisha	B+ve
7	K Sandeep	A-ve
8	Maddi Mahesh goud	O+ve
9	Ailaveni Navya	B+ve
10	Bogam Spandhana	B-ve
11	Nelli Mamatha	O+ve
12	Vanam Priyanka	O+ve
13	Thadigoppula Akshaya	B+ve
14	Ambala Suchitha	B-ve
15	Sagarla Shirisha	B-ve
16	Kavvampelli Dineshkarthik	O+ve
17	Maloth Mounika	O+ve
18	E. Mamatha	A+ve
19	H.Saiprasad	B+ve
20	K.Anitha	O+ve

6.Problems Encountered and Resources Required:

- ABO discrepancies may be due to clerical errors or technical problems with a sample during testing.
- Technical assistance is need to do this test.
- Care is must in handling the instruments and operators.

- Blood draws are generally safe for most people, but they do pose some risks. Some may experience some discomfort or pain when the needle is inserted, also develop bleeding, bruising, or infection at the puncture site

7. Conclusion:

Blood group O is the commonest blood group in, followed by A, B, and AB. More than 91% of the study population is Rh positive. The presence of antigen on the surface of the blood cell and the antibodies in the blood plasma can determine the blood groups or blood type of an individual. Moreover, these blood types or groups are inherited from our parents. Each parent passes one allele for blood type to their child. Therefore, a child could have the same blood type as one of their parents. As per the records, AB-negative is considered to be the rarest blood type. It is difficult to say which blood type is the rarest in the world and it depends on the frequency in requirement of certain blood types, which varies widely in different parts of the world.