

TEST: ABO RED BLOOD CELL GROUP TYPING

PRINCIPLE:

The ABO antigens are primarily glycolipids which are found on the surface of human red blood cells as well as in association with other body tissues. These are two distinct parts to ABO grouping. The Direct or Forward grouping requires known anti-A and anti-B typing antiserums for testing unknown cells. The Indirect, Reverse or Back grouping requires a pool of known A and known group B cells. Both Forward and Reverse grouping is routinely carried out. The forward typing antigen-antibody reaction results in visible agglutination of the red blood cells determining the blood groups A and B and AB. No agglutination with anti-A, anti-B, determines the amorphous, group O. In the reverse typing reagent red blood cells agglutinate when antibodies in patient serum react with their corresponding antigenic determinants on the red blood cell. Anti-A and B antibodies in patient serum agglutinates red blood cells possessing A and/or B blood group antigens, while group O red blood cells will not react with the patient serum. The approximate frequency of each antigen on the erythrocytes of a Caucasian population is: A-41%, B-9%, AB-4%, O-46%.

SPECIMEN REQUIREMENTS:

10 ml red top serum tube without serum separator. Transport at room temperature. No special preparation of the patient is required prior to specimen collection. Do not use serum tubes with serum separator gel. This may interfere with results, causing false agglutination. All serum tubes received for ABO-RH typing with a serum separator will be rejected.

REFERENCES:

Technical Manual 9th ed., Arlington, VA: American Association of Blood Banks, 1985.

Results are reported as A, B, AB or O Blood Group.

Turnaround Time: One Day