## CLAIMS

1. An assaying kit for testing pre-transfusion blood group matching between two blood samples , said kit comprising at least two assemblies (101,201) corresponding to a first and a second blood sample, each assembly comprising at least two test units (1), each test unit (1) comprising:

- a reagent containing an antibody able to bind to an antigen present on erythrocytes, and
- a membrane (2,102,202) permeable to free erythrocytes (6) and impermeable to hemagglutinated erythrocytes,

wherein the antibody contained in the first test unit for both the first assembly (101) and the second assembly (201) is corresponding to a first blood group and the antibody contained in the second test units for both the first assembly (101) and the second assembly (201) is corresponding to a second blood group.

2. The assaying kit according to claim 1 wherein the antibody contained in the first test unit of each assembly is corresponding to blood group A and the antibody contained in the second test unit of each assembly is corresponding to blood group B.

3. The assaying kit according to claim 1 or 2 wherein each of the at least two assemblies of the kit further comprises a third test unit (110r, 210r) without antibody, used as a control unit.

4. The assaying kit according to any of the previous claims wherein each of the at least two assemblies of the kit further comprises an additional test unit (110r, 210r) containing an antibody corresponding to the Rhesus (Rh) blood group.

5. The assaying kit according to any of the previous claims wherein each test unit (1) comprises a first cavity (9, 109a, 109b, 209a,209b) for receiving the reagent and the biological sample (3) and a second cavity (10,110a,110b, 210a,210b) for receiving the filtrate (6 or 8) , the first and second cavity being separated by the membrane (2, 102,202).

6. The assaying kit according to any of the previous claims wherein each assemblies comprises means for receiving a blood sample and distributing said blood sample between the test units of each assembly.

7. The assaying kit according to claim 6, wherein the means for receiving the blood sample of the assembly (101) corresponding to the first blood sample further comprises means (120) for taking a blood sample from a blood bag, said means being not adapted to receive a sample directly sampled from an individual.

8. The assaying kit according claim 7 wherein the means for receiving the blood sample of the assembly (101) corresponding to the first blood sample further comprises an hollow needle (120) able to pierce a plastic tube of a blood bag to take a blood sample and said hollow needle (120) being unable to directly take a blood sample from an individual.

9. The assaying kit according to any of the claim 6 to 8, wherein the means for receiving the blood sample of the assembly (201) corresponding to the second blood sample further comprises means (220) for receiving a blood sample from a syringe, said means being not adapted to take a sample directly from a blood bag or a blood bag tubing.

10. The assaying kit according claim 9 wherein the means for receiving the blood sample of the assembly (101) corresponding to the second blood sample further comprises a female luer or a septum able to receive a blood sample from a syringe.

11. The assaying kit according to any of the previous claims further comprising a device comprising a rotating support (300), for supporting the first assembly (101) and the second assembly(201), said rotating support (300) being suitable for generating in use a flow of the blood sample through the membrane (2) by centrifugation.

12. The assaying kit according to claim 11 wherein the device further comprises optical sensor(s) for detecting the presence either of hemaglutinated erythrocytes (7) on the membranes, or of erythrocytes (6) downstream (10) of the membranes.

13. The assaying kit according to claim 12 wherein each assembly comprises an optical marker (335,334) for checking the presence of both assemblies, and for aligning the optical sensors with the assemblies.

14. The assaying kit according to any of the claims 11 to 13 wherein the device further comprises communication means for comparing the results of the compatibility test with predetermined compatibility data stored in a database.

15. A method for verifying compatibility matching between two biological samples by assaying an analyte present in the biological samples, said analyte being a first member of a binding pair, said binding pair consisting of an antigen present on erythrocytes and an antibody binding to said antigen present on erythrocytes, said binding pair corresponding to a blood group antigen/antibody, said method comprising the step of :

- treating the biological samples with a reagent containing the second member of the binding pair to generate hemagglutination in two separate test units (1),

- separating by filtration through a membrane (2) permeable to free erythrocytes (6) and impermeable to hemagglutination, the hemagglutination (7), if any has formed, from the free erythrocytes (6), and

- detecting said free erythrocytes (6) and/or said hemagglutination (7) and correlating the presence of the analyte in the sample through the detection of free erythrocytes (6) downstream of the membrane (2) and/or hemagglutination (7) upstream of the membrane (2) the blood group antigen or antibody of two biological samples being tested simultaneously, the two biological samples corresponding to a first individual and a second individual and wherein the results are compared for compatibility matching.

16. The method of claim 15, wherein the free erythrocytes (6) and/or the hemagglutination (7) are detected by optical means.

17. The method of any of the claims 15 to 16 wherein the biological samples comprises whole blood.

18. The method of any of the claims 15 to 17 wherein at least two analyte are assayed simultaneously for both biological samples in two separate test units (1), a first analyte corresponding to A blood group antigen or antibody binding to the said antigen and the second analyte corresponding to B blood group antigen or antibody binding to the said antigen.

19. The method of any of the claims 15 to 18 wherein two additional test units (1) are used for verifying Rh compatibility between the two biological samples.

20. The method of any of the claims 15 to 19 wherein the results are further compared to predetermined data stored in a database.

## CLAIMS

1. An assaying kit for testing pre-transfusion blood group matching between two blood samples , said kit comprising at least two assemblies (101,201) corresponding to a first and a second blood sample, each assembly comprising at least two test units (1), each test unit (1) comprising:

- a reagent containing an antibody able to bind to an antigen present on erythrocytes, and
- a membrane (2,102,202) permeable to free erythrocytes (6) and impermeable to hemagglutinated erythrocytes,

wherein the antibody contained in the first test unit for both the first assembly (101) and the second assembly (201) is corresponding to a first blood group and the antibody contained in the second test units for both the first assembly (101) and the second assembly (201) is corresponding to a second blood group,

and said kit comprising a device comprising a rotating support (300), for supporting the first assembly (101) and the second assembly(201), said rotating support (300) being suitable for generating in use a flow of the blood sample through the membrane (2) by centrifugation.

2. The assaying kit according to claim 1 wherein the antibody contained in the first test unit of each assembly is corresponding to blood group A and the antibody contained in the second test unit of each assembly is corresponding to blood group B.

3. The assaying kit according to claim 1 or 2 wherein each of the at least two assemblies of the kit further comprises a third test unit (110r, 210r) without antibody, used as a control unit.

4. The assaying kit according to any of the previous claims wherein each of the at least two assemblies of the kit further comprises an additional test unit (110r, 210r) containing an antibody corresponding to the Rhesus (Rh) blood group.

5. The assaying kit according to any of the previous claims wherein each test unit (1) comprises a first cavity (9, 109a, 109b, 209a,209b) for receiving the reagent and the biological sample (3) and a second cavity (10,110a,110b, 210a,210b) for receiving the filtrate (6 or 8) , the first and second cavity being separated by the membrane (2, 102,202).

6. The assaying kit according to any of the previous claims wherein each assemblies comprises means for receiving a blood sample and distributing said blood sample between the test units of each assembly.

7. The assaying kit according to claim 6, wherein the means for receiving the blood sample of the assembly (101) corresponding to the first blood sample further comprises means (120) for taking a blood sample from a blood bag, said means being not adapted to receive a sample directly sampled from an individual.

8. The assaying kit according claim 7 wherein the means for receiving the blood sample of the assembly (101) corresponding to the first blood sample further comprises an hollow needle (120) able to pierce a plastic tube of a blood bag to take a blood sample and said hollow needle (120) being unable to directly take a blood sample from an individual.

9. The assaying kit according to any of the claim 6 to 8, wherein the means for receiving the blood sample of the assembly (201) corresponding to the second blood sample further comprises means (220) for receiving a blood sample from a syringe, said means being not adapted to take a sample directly from a blood bag or a blood bag tubing.

10. The assaying kit according claim 9 wherein the means for receiving the blood sample of the assembly (101) corresponding to the second blood sample further comprises a female luer or a septum able to receive a blood sample from a syringe.

11. The assaying kit according to claim 1 wherein the device further comprises optical sensor(s) for detecting the presence either of hemaglutinated erythrocytes (7) on the membranes, or of erythrocytes (6) downstream (10) of the membranes.

12. The assaying kit according to claim 11 wherein each assembly comprises an optical marker (335,334) for checking the presence of both assemblies, and for aligning the optical sensors with the assemblies.

13. The assaying kit according to any of the claims 1 wherein the device further comprises communication means for comparing the results of the compatibility test with predetermined compatibility data stored in a database.