NEATH PORT TALBOT COLLEGE
COLEG CASTELL NEDD PORT TALBOT

School of Maths & Science
Science Practical

Blood Typing

◆ Aim

At the end of this experiment you should be able to:

1. Examine different blood types and show how they can be used to work out an unknown blood type.
2. Analyse the results and assess their value as evidence in court.

♦ Introduction

ABO Blood Typing
Once it has been established that the stain at a scene is blood (Kastel-Meyer) and that it is human (Precipitin), it can then be further established whether the blood relates to a particular person. This test relies on the reaction of antisera with antigens. There are four main blood groups, A, B, O and AB based on the presence or absence of antigens on the surface of the blood cells.

◆ Safety

Control Measures

- The wearing of safety **glasses** and **a laboratory coat at** all **times** will be sufficient to take account of most hazards and significant risks
- All waste is to be placed in the labeled container immediately after use
- You are reminded of the need of good laboratory practice in order to maintain a safe working environment.

Hazards

◆ Procedure

1. Collect four plastic drop plates, three different coloured mixing sticks and an unknown blood sample.
2. Using a pipette, drop 3 – 5 drops of the unknown blood onto each of the three wells in one of the drop plates.
3. To the well marked A, add the Anti-A serum, to the well marked B add the Anti-B serum and to the well marked Rh add the serum marked Anti-Rh.
4. Use a different coloured stick to mix the serums into the blood drops for a few minutes.
5. The blood may change consistency, clumping together and turning opaque, this is known as agglutination and is positive for the serum used.
6. If agglutination occurs in the well marked A then it is positive for type A blood, If it occurs in B then it is positive for type B, if it agglutinates in both A and B then it is positive for type AB and it is considered to be type O if neither A nor B agglutinates.
7. If agglutination occurs in the Rh well then it is Rhesus positive (+), no change indicates rhesus negative (-).
8. Once the type of unknown blood has been established you can compare it to the three suspect or elimination samples provided.
9. For each of the blood types, follow the process outlined above until a match is made.

◆ Results

Sample	Anti A	Anti B	Rhesus	Result
1				
2				
3				
Unknown				

◆ Conclusions