QUALITATIVE DETERMINATION OF RHEUMATOID FACTOR

INTRODUCTION
Rheumatoid factors (RF) are antibodies directed against antigenic sites in the Fc fragment of human and animal IgG. Their frequent occurrence in rheumatoid arthritis makes them useful for diagnosis and monitoring of the disease. One method used for rheumatoid factor detection is based on the ability of rheumatoid arthritis sera to agglutinate sensitized sheep red cells, as observed by Waaler and Rose. A more sensitive reagent consisting of biologically inert latex beads coated with human gamma globulin was later described by Singer and Plotz. The RF kit is based on the principle of the latex agglutination assay of Singer and Plotz. The major advantage of this method is rapid performance (2 minute reaction time) and lack of heterophile antibody interference.

PRINCIPLE
The RF reagent contains latex particles coated with human gamma globulin. When the reagent is mixed with serum containing RF at a level greater than 8.0 IU/ml the particles will agglutinate.

TEST SENSITIVITY
The sensitivity is of 8 IU/ml of rheumatoid factor according to the World Health Organisation (WHO) International Reference preparation.

REAGENT COMPOSITION
Reagent 1 : RF Latex Reagent
Reagent 2 : Positive Control Sera
Reagent 3 : Negative Control Sera

ACCESSORIES
Slides, Stirrer rods, Droppers

SAFETY PRECAUTIONS AND WARNINGS
Components from human origin have been tested and found to be negative for the presence of HBsAg, HCV, and antibody to HIV (1/2). However handle cautiously as potentially infectious.

SAMPLE COLLECTION AND PRESERVATION
Serum

QUALITATIVE DETERMINATION

ASSAY PROCEDURE

Add in different circles of the slide :
- Serum to be tested 1 drop
- Positive Control 1 drop
- Negative Control 1 drop
- In all circles add : RF latex Reagent 1 drop

Mix and spread with the stirring rod to fill the test circle. Rotate the slide and observe for any agglutination which should occur within two minutes.

INTERPRETATION OF THE RESULTS
Marked agglutination indicates an RF concentration above 8 IU/ml. All the positive samples should be tested by a semi quantitative method.

SEMI-QUANTITATIVE DETERMINATION
Prepare sample dilutions with saline 1:2, 1:4, 1:64. Test each dilution according to the qualitative procedure until no further agglutination is observed. The RF concentration can then be estimated from the last dilution with the visible agglutination. RF (IU/ml) = Highest dilution with positive reaction x reagent sensitivity (8 IU/ml).

CALCULATION
RF (IU/ml) = Highest dilution with positive reaction x reagent sensitivity (8 IU/ml).

QUALITY CONTROL
Accutestrol N - H

REFERENCE INTERVAL
Adults < 8 Ul/ml

BIBLIOGRAPHY