

Laboratory Exercise Work Sheet

Detection of Rheumatoid Factors

RF

Latex Agglutination test

NAME: _____ COMPUTER#: _____ DATE: _____

OBJECTIVES

1. Perform qualitative and semi-quantitative RF assay
2. Explain the purpose of each test
3. Explain the principle of the assay
4. Describe the nature of the antigen
5. Describe the nature of the antibody
6. Explain what sample should be used
7. Interpretation of the obtained results
8. Explain the limitation of the RF assay

PROCEDURE

1. Work in pairs
2. Obtain the recommended samples
3. Perform the qualitative & semi-quantitative RF assay as indicated in your handout
4. Record all data in your laboratory work sheet
5. Answer all given questions
6. Turn back your lab exercise work sheet in the same day or the following day before 12:00 noon.

THANK YOU

A. Qualitative determination of “RF” on the test Plate

1. Describe the given patient’s sample

2. Record your results of the “RF” test plate in the following table:

SAMPLE	< 20 I.U/ml (Negative)	> 20 I.U/ml (Positive)
NEGATIVE CONTROL		
POSITIVE CONTROL		
SAMPLE#		
SAMPLE#		

Interpretation:

B. Semi-quantitative determination of the “RF” on the “TEST PLATE”

1. Describe the serum sample given to you

2. Record your results on the following table:

Negative control	Positive control	Sample #	Sample #	Dilution agglutinating	RF Conce. (approx. IU/ ml)
				1: 2	Approx. 40
				1: 4	Approx. 80
				1: 8	Approx. 160
				1:16	Approx. 320

Interpretation:

C. Semi-quantitative determination of the “RF” TUBE TEST

1. Describe the serum sample given to you

2. Record your results in the appropriate place and find out the concentration of the RF by using the giving Behringwerke formula in your laboratory procedure handout.

Titer			
1:2	1:4	1:8	1:16

- A. Negative control
- B. Positive control
- C. Rheumatoid factor Reference serum
- D. Patient #:
- E. Patient #:

CALCULATE THE CONCENTRATION OF THE “RF” OF EACH GIVEN SERUM USING THE Behringwerke formula.

QUESTIONS:

1. What are the Rheumatoid factors ?.
2. Define the immune complexes ?.
3. How can immune complexes be detected in biopsies?.
4. Mention five diseases which are caused by deposition of immune complexes ?.
5. What is the latex particles made of ?.
6. What are coating the latex particles which are used in the qualitative determination of the RF by the test plate ?.
7. What does elevated RF titers indicate ?.
8. Numerous test systems have been described for the detection of RFs, mention four of these:
 - 1.
 - 2.
 - 3.
 - 4.
9. Testing for RF has a high diagnostic value, explain how ?.
10. Explain the principle of "latex agglutination assay" for the detection of RF ?.
11. The absence of agglutination with IgG coating latex particles means what ?.

- 12. If you have received a serum or plasma sample for RF's detection, and you asked to keep it for six days, before performing the test, what shall you do with this sample to preserve it ?.**

- 13. What should you do if you received a lipaemic turbid sample ?.**

- 14. If you asked to freeze a sample for how long can you keep it frozen, and what is the temperature that is suitable for freezing the sample ?.**

- 15. Why each laboratory has to establish its own reference range for RF ?.**

- 16. What would you expect the result of an examined serum for RF, if the test has read after 5 minutes ?. and why ?.**

- 17. Would the strength of the agglutination tell me anything about the RF activity ?. if yes, explain why, and if you answer No, please explain why ?.**

- 18. After performing either qualitative or semi-quantitative procedure for RF determination can you freeze the latex particles or not ?. Explain why ?.**

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