

Laboratory Exercise Work Sheet

Detection of anti-Brucella antibodies

Agglutination Assay

NAME: _____ COMPUTER# _____ DATE: _____

OBJECTIVES

1. Perform Rapid screening test, Rapid slide titration, & tube agglutination test
2. Explain the purpose of each test
3. Explain the principle of the assay
4. Describe the nature of the used antigen
5. Explain what sample should be used
6. Interpretation of the results

PROCEDURE

1. Work in pairs
2. Obtain the recommended samples
3. Perform the Stained Brucella suspension assays
4. Record your data in your laboratory work sheet
5. Answer all given questions
6. Turn back your laboratory exercise work sheet in the same day or the following day before 12:00 noon.

THANK YOU

A. Rapid Screening Test on white Tile.

1. Describe the given samples (amount & appearance)
2. Record your results in the following table.

| SAMPLE | Observation of the agglutination | INTERPRETATION |
|------------------|----------------------------------|----------------|
| NEGATIVE CONTROL | | |
| POSITIVE CONTROL | | |
| SAMPLE # | | |
| SAMPLE # | | |

B. Rapid Slide “Titration” on white Tile.

1. Describe the given samples (amount & appearance)
2. Record your results in the following table

| AMOUNT | SAMPLE # | SAMPLE # |
|----------------|----------|----------|
| 0.005 ML | | |
| 0.01 ML | | |
| 0.02 ML | | |
| 0.04 ML | | |
| 0.08 ML | | |
| INTERPRETATION | | |

C. Tube “titration” Agglutination Test

1. Describe the given sample
2. Record your results in the following table

| Tube Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----------------|------|------|------|-------|-------|-------|--------|------------------|
| Final dilution | 1:20 | 1:40 | 1:80 | 1:160 | 1:320 | 1:640 | 1:1280 | Negative Control |
| Sample # | | | | | | | | |
| Sample # | | | | | | | | |

Note: Please record your result of the negative control in the table.

Questions

- 1. Mention the type of the serological reaction involved in the stained Brucella suspension assay ?.**
- 2. Explain the principle of the stained Brucella suspension techniques ?.**
- 3. How can Brucella infect humans ?.**
- 4. What is the name of the disease that is caused by Brucella ?.**
- 5. Where in the human body does the Brucella grows ?.**
- 6. Is the Brucella an extra OR intra parasite ?.**
- 7. Does antibodies confer immunity to Brucella (explain) ?.**
- 8. Does antibodies to Brucella Cross-React with other organisms (explain), mention the names of these organisms if there are any ?.**
- 9. Explain in general the principle of the serological assays ?.**
- 10. Stained Brucella suspension technique is primarily used in the investigation of what ?.**
- 11. Mention some immunological techniques which the stained Brucella suspension can be used ?.**

12. What should be done in the diagnosis of the febrile disease ?.
13. What type of human specimens is recommended in the performing the stained Brucella suspension technique ?.
14. What must you do with highly lipaemic samples ?.
15. What is the next step that should be done IF the result of the rapid screening test was positive for agglutination ?.
16. What high antibody titer can tell you ?.
17. Is it possible that you find a positive result (agglutination) in the tube agglutination test, but negative in the rapid slide titration test ?. If yes, then explain why .
18. Would you accept any results that obtained from samples not allowed to come to room temperature before performing the stained brucella suspension assay and why if your answer is NO ?.
19. If the test has not been read within one minute, what would you expect the final result will be ?. What would you do then ?.
20. Is it serologically possible to differentiate between B.Abortus & B. melitensis infection ?. And is important to differentiate between them for treatment ?.

THANK YOU
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