# BRUCELLA Agglutination Tube Test

## Case three: prozone

| Tube10 | Tube9 | Tube8 | Tube7 | Tube6 | Tube5 | Tube4 | Tube3 | Tube2 | Tube1 |
|---|---|---|---|---|---|---|---|---|---|
| Control- | +Control | 1/1280 | 1/640 | 1/320 | 1/160 | 1/80 | 1/40 | 1/20 | 1/10 |
| - | + | - | - | + | + | - | - | - | - |

# BRUCELLA Agglutination Tube Test

## Case two: negative reaction

| Tube10 | Tube9 | Tube8 | Tube7 | Tube6 | Tube5 | Tube4 | Tube3 | Tube2 | Tube1 |
|---|---|---|---|---|---|---|---|---|---|
| Control- | Control+ | 1/1280 | 1/640 | 1/320 | 1/160 | 1/80 | 1/40 | 1/20 | 1/10 |
| - | + | - | - | - | - | - | - | - | - |

# BRUCELLA Agglutination Tube Test

## Case one: positive reaction

| Tube10 | Tube9 | Tube8 | Tube7 | Tube6 | Tube5 | Tube4 | Tube3 | Tube2 | Tube1 |
|---|---|---|---|---|---|---|---|---|---|
| Control- | Control+ | 1/1280 | 1/640 | 1/320 | 1/160 | 1/80 | 1/40 | 1/20 | 1/10 |
| - | + | - | - | - | - | + | + | + | + |

# COMPLEMENT FIXATION TEST

## positive case INFECTION

There is No haemolysis in the first tubes, and haemolysis in the rest of the test tube + haemolysis in the Antigen, Serum and Complement Control tubes.

The titre is the last tube showing No haemolysis.

| Tube 1 | Tube 2 | Tube 3 | Tube 4 | Tube 5 | Tube RBCs control | Tube Antigen Control | Tube Serum control | Tube Complement Control |
|---|---|---|---|---|---|---|---|---|
| NH | NH | NH | NH | H | NH | H | H | H |

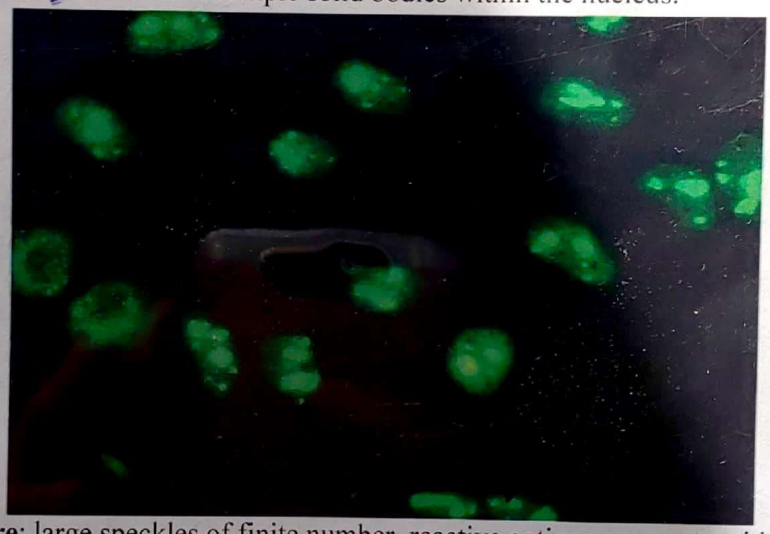
H: Haemolysis.

NH: No Haemolysis.

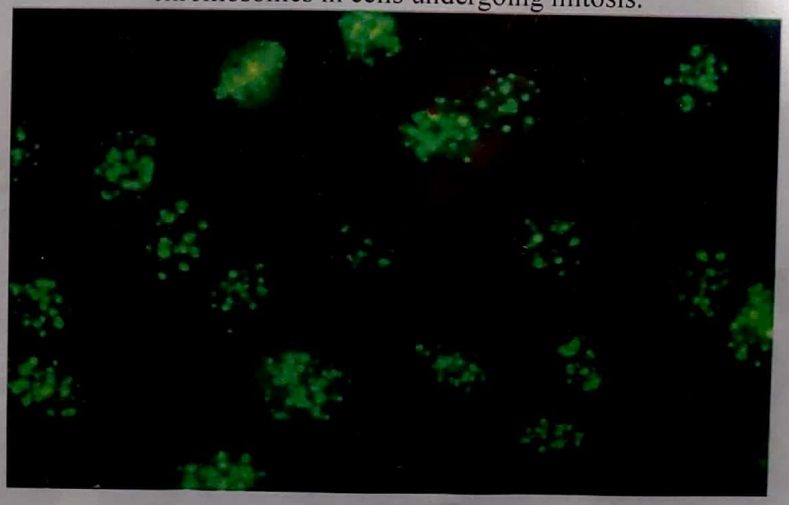
# LATEX AGGLUTINATION

| TEST | SPECIMEN | TYPE OF REACTION SENSITIVITY | ANTIGEN Ag | ANTIBODY Ab | PRINCIPLE | CAUSATIVE AGENT | DISEASE CASE |
|---|---|---|---|---|---|---|---|
| *HCG* qualitative | urine / serum | passive agglutination | HCG | anti-HCG on latex | HCG + anti-HCGon latex = agglu. Within 2 min. | | pregnancy |
| *CRP* qualitative& semiquantitative | serum | passive agglutination | CRP- C reactive protien | anti-CRP on latex | CRP+anti-CRPon latex = agglu. Within 2 min. | many bacteria & viruses | acute stage of inflammation diseases |
| *RF* qualitative& semiquantitative | serum | passive agglutination | human IgG on latex | IgM or IgG in serum(RF) | RF+human IgG on latex = agglu. Within 2 min. | UNKNOWN | Rheumatoid arthritis |
| *ASO* qualitative& semiquantitative | serum | passive agglutination | StreptolysinO on latex | anti-SterptolysinO in serum | StreptolysinO on latex + anti-StreptolsinO in serum= agglu. Within 2 min. | Streptococci pyogenes group A | streptococcal infections rheumatic fever |

**Nucleolar**: the nucleoli stain as multiple solid bodies within the nucleus.



**Centromere**: large speckles of finite number, reactive antigen segregate with condensed chromosomes in cells undergoing mitosis.



6-examine for specific fluorescence under fluorescence microscope at a magnification of 200x or greater.

**Interpretation of the results**

The nuclear staining patterns observed with human epithelial cells (HEp)-2 provided include homogeneous, peripheral (rim), speckled, nucleolar and Centromere.

**Homogeneous**: the entire nucleus fluoresces evenly with a diffuse staining pattern.

**Peripheral (rim):** the nuclear membrane stains most intensely with a decreasing staining intensity of the nucleoplasm toward the center of the nucleus.

**Speckled**: Discrete coarse to fine round speckles fluoresce throughout the nucleus.

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# COMPLEMENT FIXATION TEST

Anti-complementary reaction: NO haemolysis in all test tubes + NO Haemolysis in the serum, RBCs control tube.

The value of serum control tube is to test:

-The inability of serum alone to bind complement.

-The anti-complementary action of the serum, which is due to one of the followings:

a-presence of immune complexes in serum that binds to complement and prevent its haemolytic activity

b-Heparin therapy which inactivates complements due to consumption of Ca, Mg.

c-Old or contaminated serum has destructive action on complement.

| Tube1 | Tube2 | Tube3 | Tube4 | Tube5 | Tube RBCs control | Tube Ag control | Tube Serum control | Tube Complement control |
|---|---|---|---|---|---|---|---|---|
| NH | NH | NH | NH | NH | NH | H | NH | H |

# COMPLEMENT FIXATION TEST

No infection (negative case): when patients serum does not contain antibodies, the complement will not be used and will be available to fix To and haemolyze the antibody coated red cells.

Haemolysis in all test tubes + hamolysis in the Ag , Ab, And complement control tube.

| Tube1 | Tube2 | Tube3 | Tube4 | Tube5 | Tube RBCs control | Tube Ag control | Tube Serum control | Tube Complement control |
|---|---|---|---|---|---|---|---|---|
| H | H | H | H | H | NH | H | H | H |