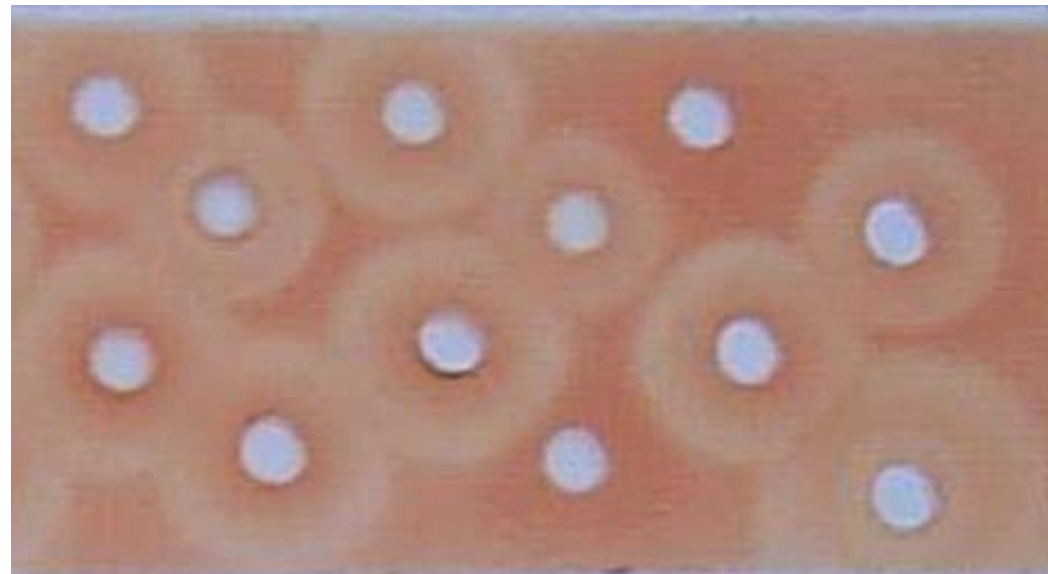


Single Radial Haemolysis Test

Description:

- It is based on the binding of **the complement to the antigen-antibody complex** in positive reactions in the semi-solid medium formed with agar, and the formation of hemolysis as a result of the lysis of **antigen-sensitized erythrocytes**.
- The hemolysis, mediated by complement and induced by the antibody-antigen complex, produces easily identifiable “zones of hemolysis”



What for do we perform SRH test?

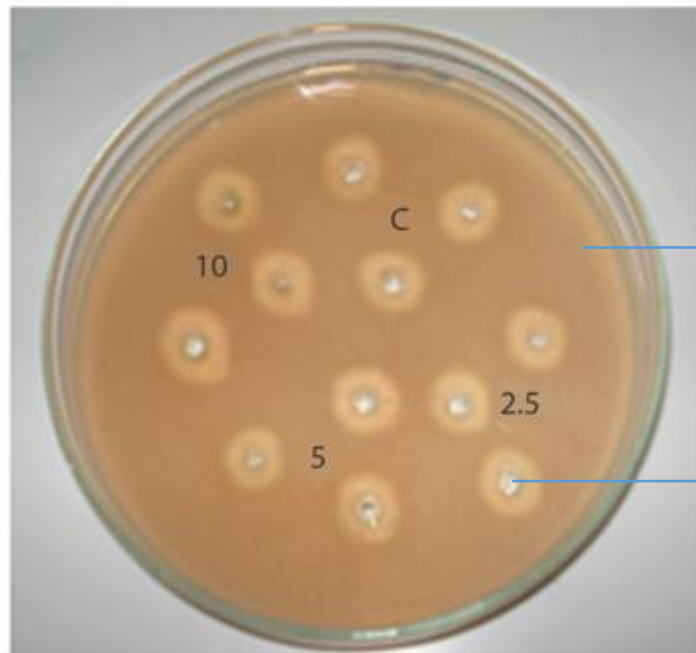
- Virus identification (rarely) → Virological
- Investigation of antibody and determination of the titer → Serological

Requirements for SRH testing (Ab detection)

1. **Agar:** 1-2 % Noble agar or agarose
2. **Complement:** It is a system of **proteins** found in the fresh blood serum of vertebrates that can bind to the **antigen-antibody complex** and thus lead to cytolysis.
3. **Sensitized erythrocyte:** By processing some of the chemical substances (chromium chloride, potassium periodate) specific antigens of the virus transferred to erythrocytes. **These act as both erythrocytes and antigens.**

How do we perform the SRH Test

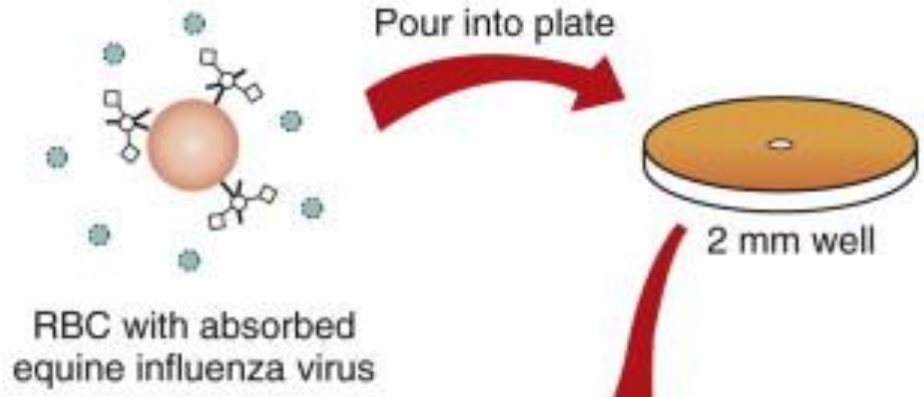
- Agar, complement and sensitized erythrocyte are mixed in a certain amount, poured into petri dishes and kept in the refrigerator for freezing of the agar for 1 night.
- Suspected serum samples, Positive and negative serums are placed in the holes drilled on the agar and incubated for 1 night.
- The next day, the petri dishes taken from the refrigerator are kept at room temperature for 2-3 hours and the results evaluated.



→ Agar + complement+ sensetized erythrocyte

→ Hole full with serum

1) Prepared test antigen: RBCs with adsorbed virus plus complement (●) and agarose gel



2) Add patient serum to well

+ (anti-influenza Ab)



Ab induces complement fixation and RBC lysis

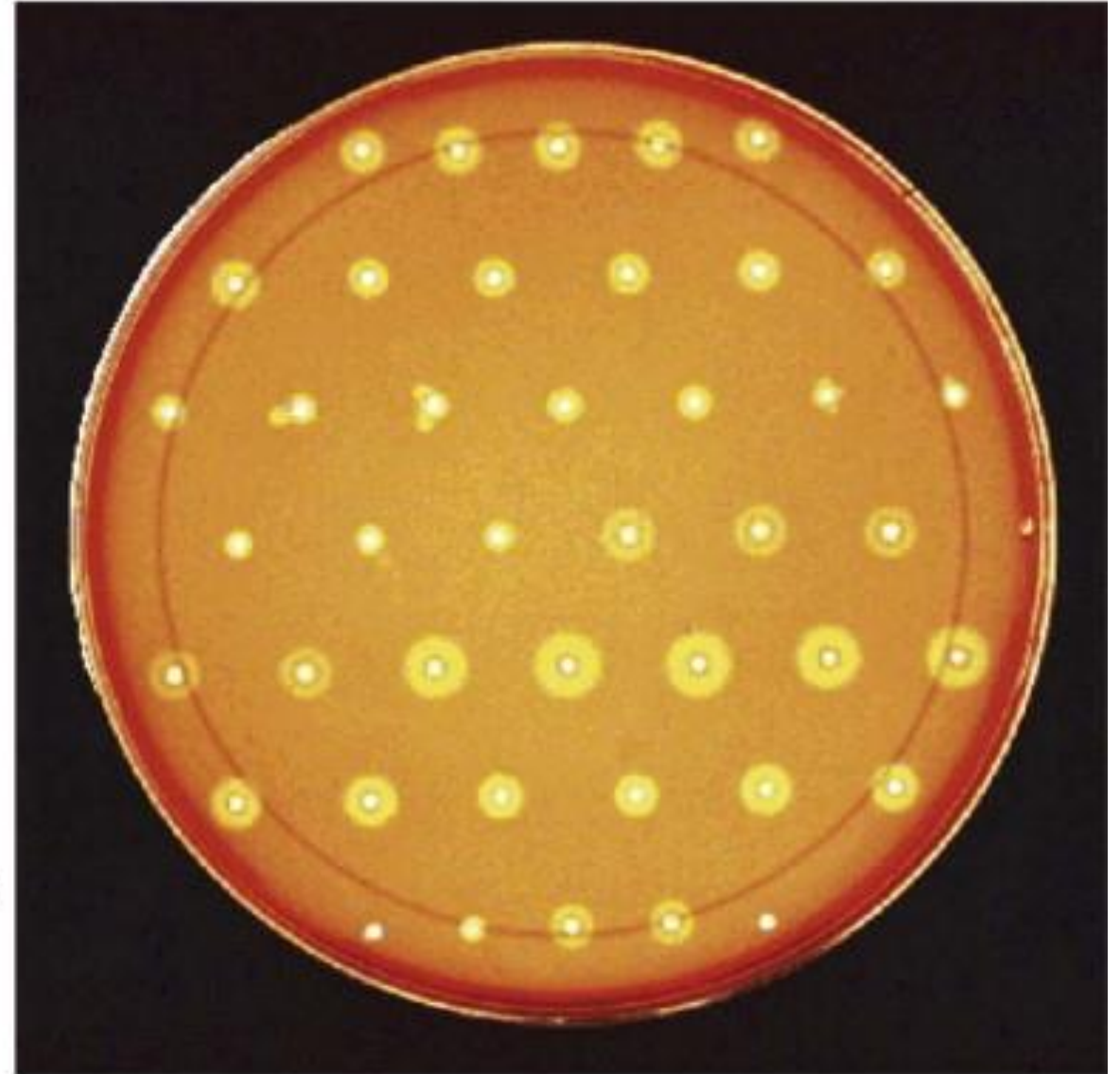
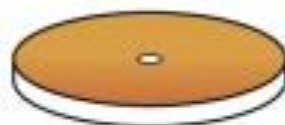
Zone of lysis



- (no specific Ab)



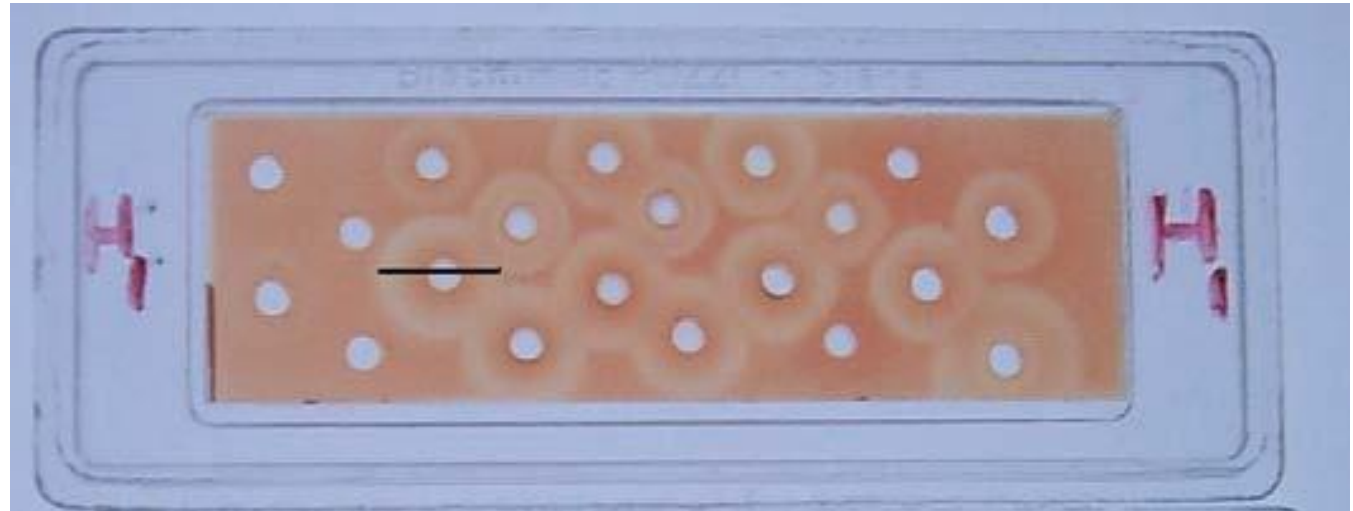
No Ab to fix complement



Results

- Around (-) control the well HEMOLYSIS should not occur.
 - Around (+) Control well **HEMOLYSIS** should occur.
 - Antigen specificity in suspect serum sample
-
- If there is an antibody; Antigen-antibody complex occurs and complement binds to that complex And Lysing the erythrocytes.
 - As a result **HEMOLYSIS** occurs.

- HEMOLYSIS (+) SRH test (+)
- HEMOLYSIS (-) SRH test (-)



<https://docplayer.net/58286441-Haemagglutinin-inhibition-single-radial-haemolysis.html>