The People's Democratic Republic of Algeria

Ministry of Higher Education and Scientific Research

Mila University Center.

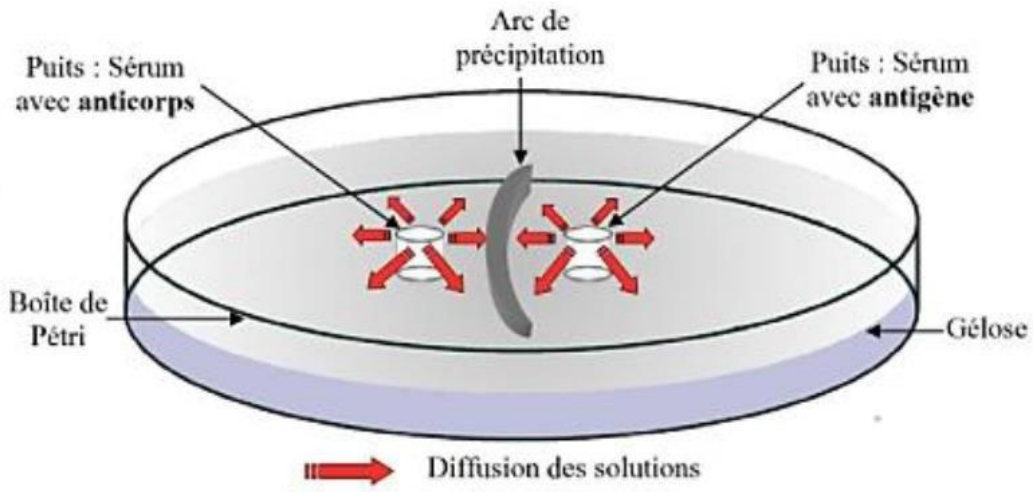
Faculty of Science and Technology Department

of Natural and Life Sciences

TD 05 Immunology correction

Exercise 1

Principle of the Ouchterlony technique (Double Immunodiffusion): is an immunoprecipitation method based on the diffusion of antigens and antibodies in solid medium (generally an agarose gel) from facing wells. When antibody molecules encounter antigen molecules, antigen-antibody binding leads to precipitation of immune complexes in the encounter area if the antibody recognizes the antigen**.**



This method is used for the detection and identification of unknown Ag based on the principle of symmetry of precipitation profiles.

Assessment of test results

1- In the central well is rabbit serum injected with Xenopus laevis vitellogenin which is a protein capable of inducing antibody synthesis. It therefore contains antibodies to Xenopus laevis vitellogenin.

2- An arc of precipitation is observed between the central well and well no. 2 which contains the vitellogenin of Xenopus laevis. There was a reaction of the antigen (vitellogenin of Xenopus laevis) with the antivitellogenin antibody.

3- No precipitation arc between the central well and wells 1, 3 and 5. Vitellogenin antigen, recognized by antivitellogenin antibodies, is not present.

4- Presence of an arc between the central well and wells 4 and 6 which contain vitellogenins of Xenopus borealis and tropicalis. Antivitellogenin antibodies from Xenopus laevis recognized vitellogenins from Xenopus borealis and tropicalis.

Deduction: The vitellogenins of Xenopus laevis, Xenopus borealis and Xenopus tropicalis are not different from each other and are therefore not specific to the Xenopus species tested.

Exo 2

The principle of assaying an antigen by Mancini's technique

The formation of immune complexes according to this technique is carried out on a plate covered with an agar, of constant height over the entire surface of the plate and to which is mixed a serum containing anti-antigen Ag1 antibodies.

The solutions of decreasing concentration (C1, C2, C3 and C4) and known Ag1 antigen are placed in the wells dug in the agar according to the diagram below. The antigens diffuse into the agar.

1- The 2 patients have the desired Ag1 antigens in their body

2- Patient 2 has the highest concentration of antigens