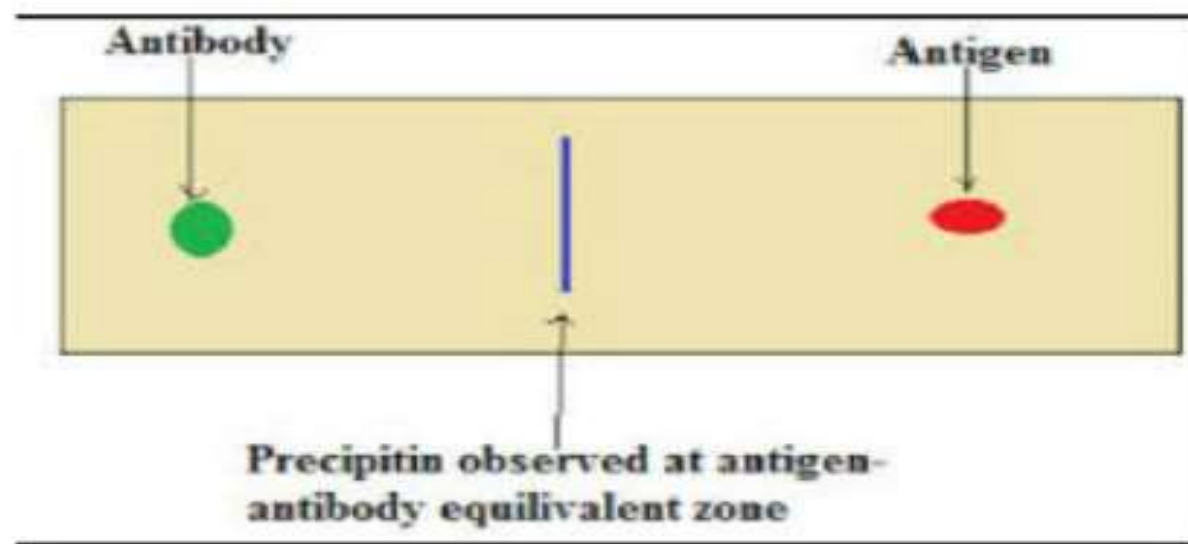


2-Immunodiffusion: Antigen-Antibody Precipitations Reactions in Gels

Antigen may link together by multiple antibodies and form an insoluble precipitate form. This form is visible to the naked eye.

A precipitate also indicates that antibody and antigen molecules are present at optimal proportions for the formation of larger complex.

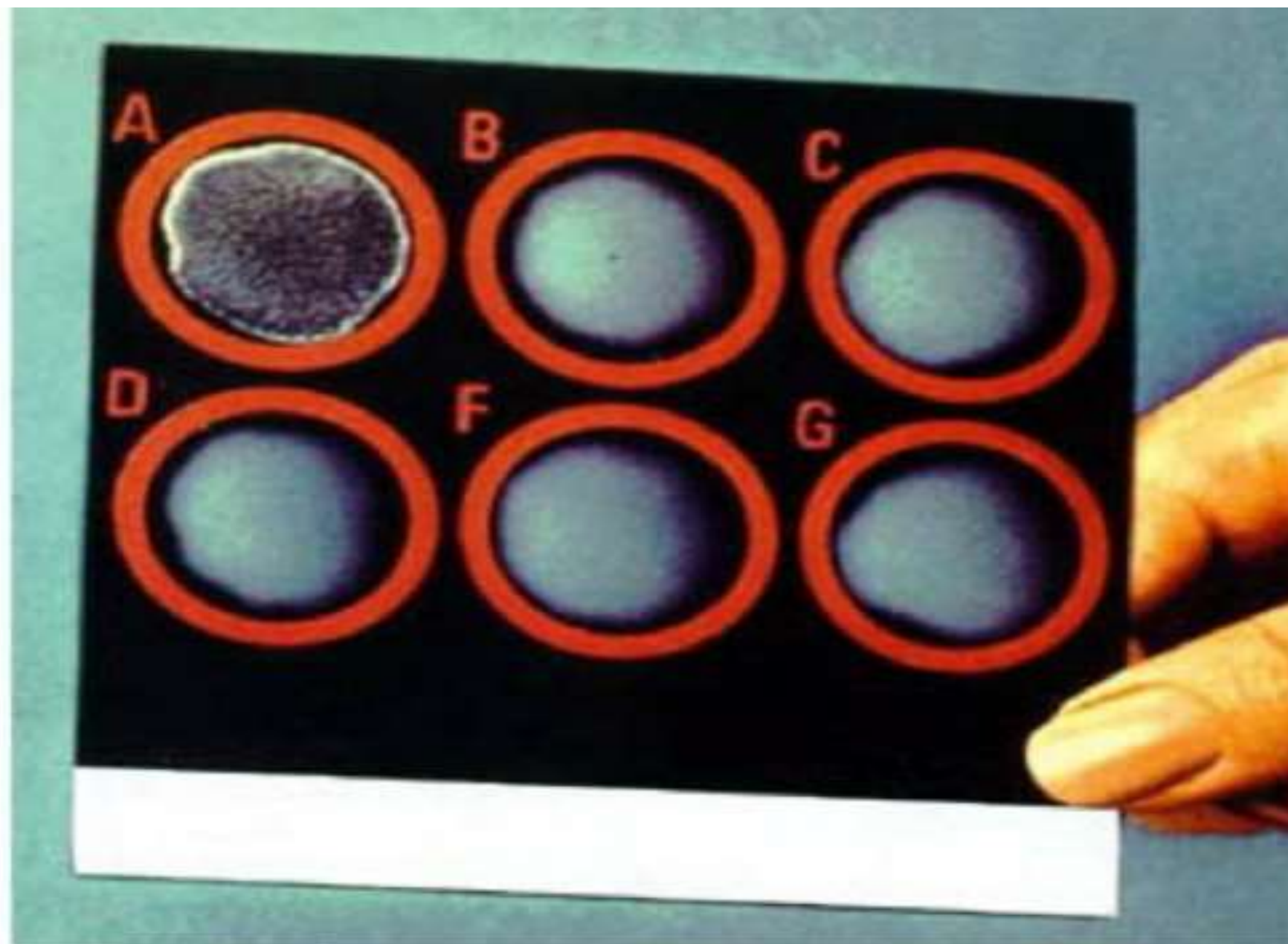
In Immunodiffusion tests, antibodies and or soluble antigens are loaded into separate wells of a gel and are allowed to diffuse, each reagent moving radially into the gel. An immobile precipitate, visible as a band (precipitin line) in the gel, develops if specific antibody- antigen binding takes place, and if antibody-antigen components are present at optimal proportions.



-Serologic Investigation of Microorganisms

Serologic technique may allow rapid and highly specific identification of microorganisms. This involve antibodies and antigen reaction. Antibodies and antigen may react in certain visible ways in vitro.

For example, agglutinins are antibodies that produce agglutination, a reaction that occurs when bacterial cells or other particles are visibly clumped by antibody combined with antigens on the cell surfaces. **Percipitins are antibodies that produce precipitation of soluble antigen (free in solution and unassociated with cells).**



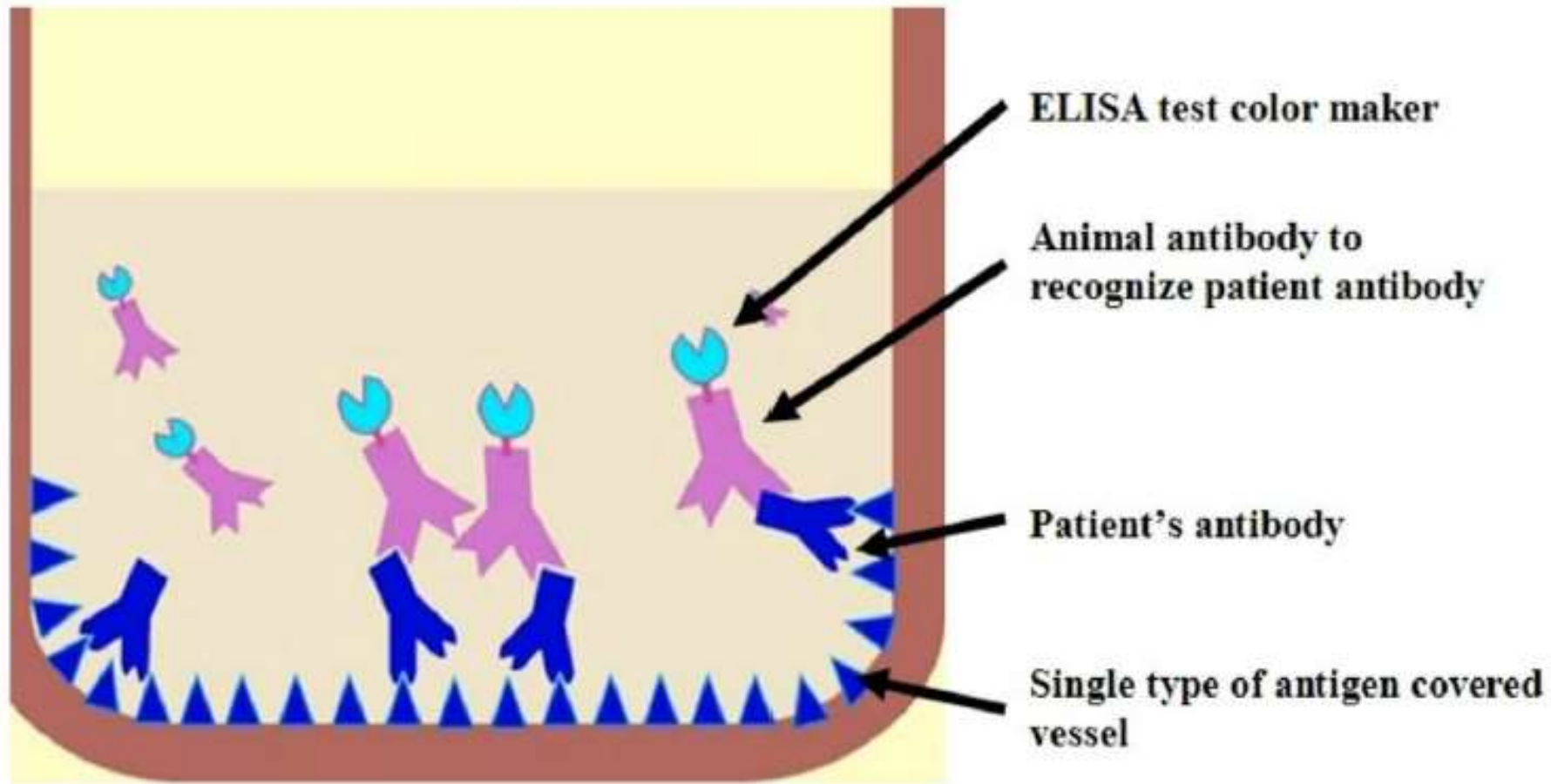
- **The ELISA test(enzyme-linked immunosorbent assay):**

The ELISA (sometimes also called an EIA) is a sensitive, inexpensive assay technique involving the use of antibodies coupled with indicators such, enzymes to detect the presence of specific substances, usually an antigen in a liquid sample or wet sample.

ELISA tests are generally **simple and accurate tests that determine how much antibody is in a sample, or how much protein is bound by an antibody.**

ELISAs are performed in plate which has 96-wells . The bottom of each well is coated with a protein to which will bind the antibody you want to measure.

+ substrat (last step)



**An ELISA test may be used to
diagnose diseases such as:**

- HIV (the virus that causes AIDS)**
- Hepatitis**
- syphilis**
- varicella zoster virus (which causes
chicken pox and shingles)**