

Test for **ELISA: Amplification of Biochemical Signals** Activity

Name: \_\_\_\_\_

Teacher: \_\_\_\_\_

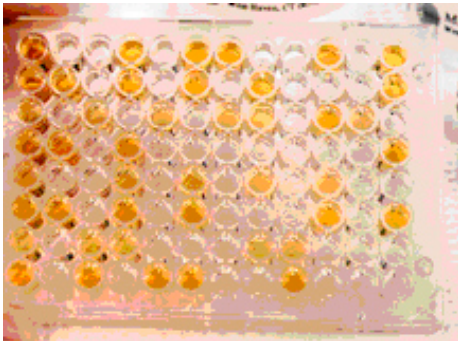
Date \_\_\_\_\_

Class \_\_\_\_\_

Check one:

Pretest

Posttest



1. The picture to your left shows the color of the solutions in different wells of an ELISA test.

What in ELISA gets colored and what does the presence of color tell you?

*Explain in 2-3 sentences:*

2. Which of the following is most correct:

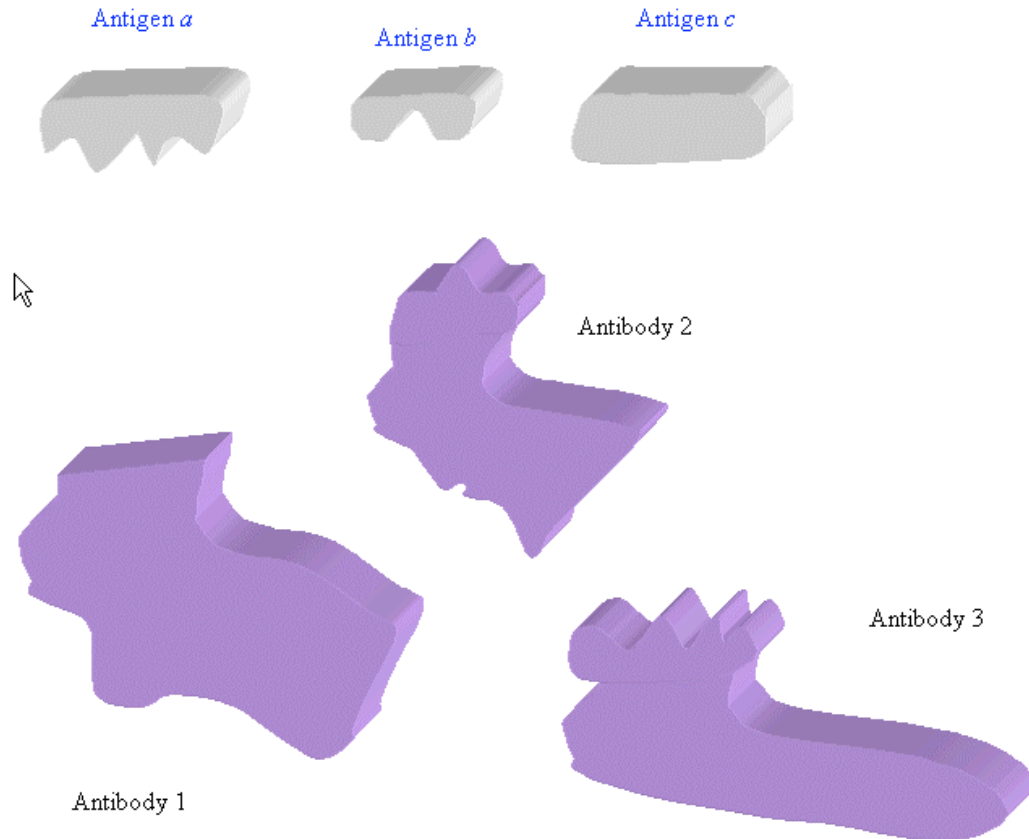
- A. ELISA measures the level of antigens in blood serum.
- B. ELISA measures the level of antibodies in blood serum .
- C. ELISA measures the level of specific antigen - antibody binding.

3: There are three antigens, *a*, *b* and *c* and three antibodies, 1, 2 and 3. For each antibody, predict which antigen makes the strongest complex and which one makes the weakest. complex.

2a. Antibody 1: antigen \_\_\_ binds most strongly, antigen \_\_\_ binds weakly

2b. Antibody 2: antigen \_\_\_ binds most strongly, antigen \_\_\_ binds weakly

2c. Antibody 3: antigen \_\_\_ binds most strongly, antigen \_\_\_ binds weakly



4. Consider the different steps of the ELISA procedure. After adding antibodies, the protocol requires several thorough washings of the plates and careful removal of the

washing fluid to assure that weakly bound antibodies are washed away. Why do you think there are strongly bound and weakly bound antibodies in the samples?

4b. What will happen with the test results if those weakly bound antibodies were not removed completely?

5. When conducting the ELISA tests, a lab technician placed the plates with antigens and antibodies into a cold room (under  $4^{\circ}\text{C}$  ( $39^{\circ}\text{F}$ )) for an hour as required by the protocol and went to the cafeteria. When she came back, she discovered that the air conditioning unit stopped working and the temperature in the previously cold room was about  $27^{\circ}\text{C}$  ( $80^{\circ}\text{F}$ ). Explain why she should expect a problem with the ELISA test as the result of the increased temperature during the incubation period in the cold room?