

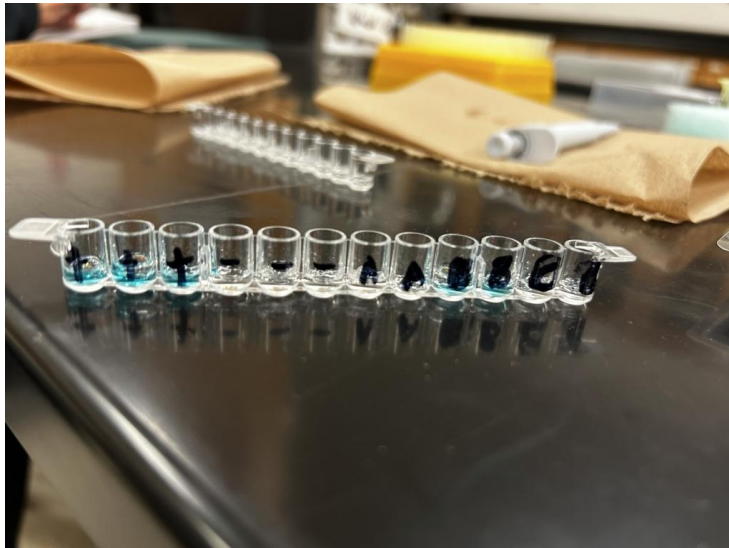
Laboratory 15-ELISA

Purpose- In laboratory 15 we used the ELISA antibody test for our experiment which is used to detect and measure antibodies in our blood or other body fluid. The abbreviation "ELISA" stands for enzyme-linked immunosorbent assay. Doctors use the ELISA test to indicate a disease for example COVID. The purpose of laboratory 15 was to perform the ELISA test experiment and indicate which samples had antibodies of the positive results.

Procedures- The procedure for laboratory 15 was to first label the 12-tube strip with first 3 rows "+", the next 3 "-", the next 2 "sample A", the next 2 "sample B", and the last 2 "sample C" (label if needed). We then used a micropipet and fresh pipet tip for 50ul of AG that we put in all 12 wells of the microplate strip. We then set a timer for 5 minutes so that the antigen could bind to the plastic wells. After the 5 minutes were up we then washed the strip by pouring it upside down onto paper towels, and gently tapping the strip a few times, making sure not to splash the sample back into the wells. We discarded the paper towel and then used a dropper to drop the wash buffer in all 12 of the tubes making sure not to overflow it into the other wells. We then tipped the microplate upside down onto the paper towels and gently tapped it. We were then to repeat that same washing procedure another time. Using a fresh pipet tip we then dropped 50ul of the positive control into the three positive wells. We then used another fresh pipet tip and dropped 50ul of the negative control into the negative wells. We then dropped "34" in the 2 "A" wells, 35 in the "B" wells, and 36 in the "C" wells using a fresh pipet point every time. We then set a timer for 5 minutes so those antigens could bind to their targets. We then repeated the wash steps two times. After the two washes we used a fresh pipet tip to drop 50ul of the secondary antibody "SA" into all 12 wells of the microplate strip and set a 5 minute timer. After the timer went off we were to repeat the wash steps three times. When we were done with the washes we then used another fresh pipet tip to drop 50ul of the enzyme substrate "SUB" into all 12 wells and set a timer for 5 minutes. When the 5 minutes were up we were to record our observations.

Results-

ELISA Antibody experiment results



Discussion- Laboratory 15 was an interesting experiment to do because it was cool to be able to actually do the test that is performed in actual labs to determine if somebody has some kind of disease. The lab also gave me more knowledge about the ELISA antibody test. Before this lab I had not heard of the test, but now I know it's for measuring different antibodies in our body using different antigens. The results of the experiment showed that the sample "35" had the positive antibody because the positive wells turned blue and so did the "B" wells. The experiment went pretty smooth and easy but the only problem I had with mine was that there wasn't much of some of the samples left because I had done it wrong one step and had to redo it, but other than that I had no other problems.

Conclusion- The results of the ELISA antibody test can help identify if someone has any bacterial or viral infections in their body by having antigens bind to plastic wells, adding a sample, and seeing if the antigens bind to the antibodies. The experiment we had done in laboratory 15 allowed us to perform an ELISA test and see the results for ourselves. In conclusion the test had shown that the "B" sample had the disease or infection that the experiment was testing for.

