

Name: _____

Testing for SARS-CoV-19

Three friends all came down with COVID-19 symptoms. They all went to the clinic to be tested for SARS-CoV-2. In this lab you will run a test that allows you to visualize the results from their SARS-CoV-2 tests so you can determine if the three friends are positive or negative for COVID-19.

Testing for SARS-CoV-2

Take notes comparing RT-PCR and ELISA.

RT-PCR	ELISA

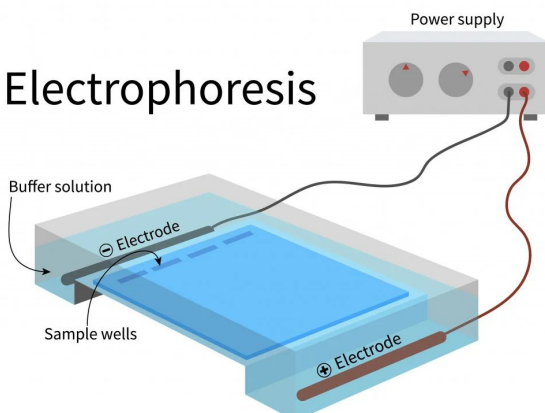
What are the 3 steps of the RT-PCR test?

- 1.
- 2.
- 3.

Gel Electrophoresis

Why do we need to use Gel Electrophoresis in this lab?

Electrophoresis

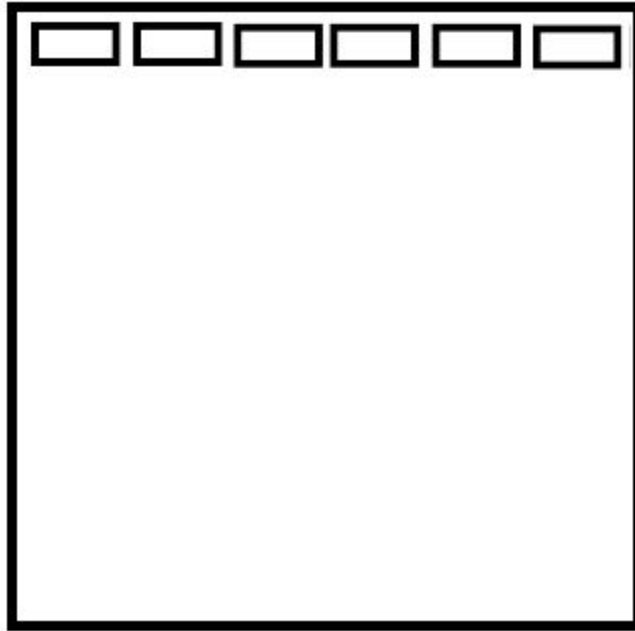


Why is DNA pulled toward the positive end of the gel box?

Label the gel wells*:

- A- DNA Standard Marker
- B- Negative Control
- C- Positive Control
- D- Patient 1 Sample
- E- Patient 2 Sample
- F- Patient 3 Sample

*Mapping out your wells gives you a plan for where each sample will go and makes it easier on you to remember which sample is in each well when analyzing your results.



Sample	Number of Fragments	Size of each Fragment	Results
DNA Standard Marker	7	6751, 3652, 2827, 1568, 1118, 825, 630	-----
Negative Control			Negative (human control only)
Positive Control			Positive (human control & viral proteins)
Patient 1			
Patient 2			
Patient 3			

Analysis Questions

1. Based on the negative and positive control which bands represent the viral proteins and which bands represent the human control DNA?
2. Why did you need to use human control DNA in this lab if we were interested in whether or not the patients are sick with COVID-19?
3. A patient sick with COVID-19 symptoms but didn't make it to the doctor's office until after the symptoms had subsided. Which test would you use to test the patient and why?