



Public Health
England



SIREN

SARS-CoV2 Immunity & Reinfection Evaluation

Frequently asked questions from the 1st SIREN participants' webinar, 2nd February 2021

1. Are there many different antibody assays used in SIREN?

There are antibody assays that detect different antibodies. Some of them detect antibodies against the “N-protein”, and some of them detect antibodies against the “S-antigen”, also known as the “spike protein”. Laboratories that run antibody tests for SIREN can use either of these two assays.

2. How will I know which antibody assay is used on my blood samples and the test results?

You can find that out by asking the SIREN study team at the trust where you work. Many sites may only communicate positive or changing results (from positive to negative, from negative to positive) to participants due to capacity. The SIREN study team at Public Health England does not disseminate individual participants' results as we only receive them for research purposes.

3. I do not receive the results about my swab (PCR) tests or my antibody tests. Why is that?

The SIREN study team at Public Health England does not have the capacity to contact participants about their tests results. You can liaise with the study team at your trust for that.

4. I have received a COVID-19 vaccine. Will I develop detectable antibodies?

Most people who receive a COVID-19 vaccine develop antibodies against the spike protein of the SARS-CoV-2 virus. Any laboratory test that detects antibodies against the spike protein will be able to detect them a few weeks after vaccination. However, the timeframe for antibody development will vary between individuals and not everyone will develop antibodies.

5. Is it possible to have antibodies that are not detected in an antibody test?

Antibodies start being produced in the body and can be detected a few weeks after vaccination (antibodies for the S-protein), or infection (antibodies for both the S and the “N” protein). In a few cases, antibodies are not detected even after enough time has passed.

6. I have received a COVID-19 vaccine but my antibody test is negative. Why is that?

There are different reasons why your test may be negative. As mentioned above, after vaccination the body produces antibodies to the S-protein. Therefore, if your local laboratory used a test that only detects N-protein antibodies your antibody test will be negative. Finally, it is important to remember that a negative antibody test following vaccination does not mean you are not protected from COVID-19, as we know that there are different immune protection responses to COVID-19. We will continue to look at these as part of SIREN.

7. I had COVID-19 a few months ago. Am I still immune to COVID-19?

Preliminary SIREN results suggest that antibodies produced after natural infection offer protection from re-infection for at least a few months. As the study is ongoing, these results will be enriched in the future. It is not possible to predict if an individual person still has immunity after having previously contracted the virus.

8. Is there any evidence of immunity between the 1st and 2nd dose of the vaccine?

We expect vaccination to reduce symptomatic infection and severe disease after 14 days, with optimal effect after 4-6 weeks. We are monitoring the immunological response to vaccines in SIREN and hope to provide vaccine effectiveness results in the near future, too.

9. How do recruitment percentages compare to demographics of healthcare workers with respect to gender and BAME representation? How can we translate findings to the wider population?

Males, BAME and non-clinical staff are currently under-represented among SIREN study participants. We are trying to increase recruitment amongst these population groups. However, the effect of this can be moderated in statistical analyses so that useful results for the whole population can be drawn.

10. You recently communicated that SIREN participants are exempt from self-isolation following a repeat-positive PCR test result. Can you explain this in more detail?

Like other research participants, SIREN participants, undergo a lot of testing. This leads to some infections being detected for a long time. This is now acknowledged by [the law](#) in England, and SIREN study participants do not have to self-isolate if **all of** the following are true: (a) they are asymptomatic at the point of the positive test result, (b) they have received another positive test result within 90 days of the current positive result, (c) they have completed self-isolation for their initial positive test result. Similar guidance applies [in Scotland](#). In Northern Ireland and Wales, please contact local public health teams. However, anyone who has been asked to self-isolate because of travel overseas, through the NHS COVID-19/Protect Scotland/Stop COVID NI apps, or as a contact of a known case, still has to self-isolate according to the law.

11. Why are these repeat-positive participants exempt from self-isolation? I am afraid I might transmit the virus to others.

People who have repeat-positive results following their initial self-isolation period may still be carrying fragments of the virus, which can be detected by the PCR test. After two weeks have passed from the first positive test result, it is very unlikely that there is live virus left in the

participant that can be transmitted and cause an infection in someone else. But as more time goes by, a positive PCR test may indicate a re-infection. This is why the law provides for exemption from self-isolation within this 90-day window after the first positive test, only.

12. I had a positive PCR test result for SARS-CoV-2 fifty days ago, for which I completed self-isolation. My SIREN PCR results were subsequently negative, but I just received another positive test result in SIREN. Do I need to self-isolate?

You do not need to self-isolate as long as you are now asymptomatic. This is because your current positive PCR test result is most likely due to the same infection that was detected fifty days ago.

13. I was vaccinated against COVID-19 and have now received a positive PCR test result in SIREN. Do I need to self-isolate?

You need to self-isolate in accordance with national guidance i.e. if this is your first PCR positive test or you are symptomatic. Previous vaccination history does not exclude people from having to self-isolate.

14. I am a SIREN participant and just returned from country X where my family lives. Am I exempt from self-isolation?

It is not in SIREN's mandate to grant you exemption from self-isolation. National guidance suggests that anyone coming back from abroad needs to self-isolate, regardless of antibody test results or vaccination history.

15. I am exempt from self-isolation according to the law but have still been contacted by NHS T&T and have been asked to self-isolate. What can I do?

In England, you can contact NHS T&T on 119 and inform the team that you are a research study participant. Please talk to your local public health teams if you are in Wales, Scotland, or Northern Ireland.

16. Do I still need to get a COVID-19 vaccine if I am naturally immune?

It is recommended that anyone who has no contraindications to receive a COVID-19 vaccine receives it, regardless of previous infection history. Vaccines are expected to boost your immune response to the virus.

17. Will SIREN be studying the effects of delaying the second dose of a vaccine?

Yes, SIREN will be studying vaccine effectiveness and the length of time between the two doses will be one of the factors we will be looking at.

18. Can anyone who has previously had COVID-19 and developed antibodies contract SARS-CoV-2 a second time?

Yes, a few people have been shown to be re-infected in SIREN. However, antibodies produced following infection have been shown to be largely protective against re-infection. We will be looking at the duration of protection in more detail as part of SIREN.

19. Does SIREN plan to follow up people who have had COVID-19 and have antibodies to see how long natural immunity will last?

Yes, this is one of the reasons for collecting repeated blood samples in SIREN.

20. Is it possible that a positive PCR test for SARS-CoV-2 detects other seasonal Coronaviruses?

No, PCR tests used for the detection of SARS-CoV-2 are specific to the SARS-CoV-2 virus and do not detect other known Coronaviruses.