

# University of Minnesota SeroNet COVID-19 Vaccine Response Study



## NEWSLETTER

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### Welcome to Winter!

We hope you stay warm and keep the blood pumping this chilly season.



As always, thank you so much for your participation in our study! We are so thankful as we wrap up 2022 and enter 2023 to have such dedicated, generous participants. We are officially a year and a half in and have reached a few milestones.



### In 2022, we...

- ✓ Collected pre-bivalent booster data - thank you all so much for making this possible!
- ✓ Performed some preliminary data analysis
- ✓ Finished recruiting new participants - we have 902 total! We look forward to seeing you all throughout the coming year.
- ✓ Started providing quantitative titer test results to our participants, though this number does not have clinical significance at this time.
- ✓ Began providing \$50 compensation for participants at their one-year anniversary visits

## Frequently Asked:

### Why is my anti-nucleocapsid test negative when I have previously tested positive for COVID-19?

This is becoming more common as individuals build up immunity to the virus. There are two hypotheses for why this is the case; the first is that the infection is staying localized in the nose and throat due to existing immunity fighting it off more readily (a mucosal immune reaction), and not spreading systemically and triggering an antibody response that would be evident from the presence of nucleocapsid antibodies in the bloodstream. This is more commonly seen with "mild" infections. The second hypothesis is that in mild infections, nucleocapsid antibody response is small enough that antibody presence is not flagging as "positive" with the laboratory assays we are using. It's important to note that our nucleocapsid antibody assay only gives a "positive" or "negative" result: the assay has a numerical cut-off, below which it flags as "negative" and above which it flags as "positive" - so "negative" does NOT necessarily mean no antibodies. These cut-offs were initially established based on vaccine-naïve individuals who were infected with COVID-19; it may be the case that the clinical assays will need to adjust their cut-offs to be lower and more sensitive, but these types of adjustments have not yet been made.

### Key points from our preliminary data:

- After the original series vaccine, persons with autoimmune conditions and transplant recipients were significantly less likely to have antibodies than immunocompetent individuals
- After a first booster, all groups' mean antibody levels were comparable to that of the immunocompetent cohort, with the exception of the transplant group
- The percent of individuals in the transplant cohort with vaccine-induced antibodies became comparable to that of immunocompetent individuals after a second booster

**Takeaway:** Our results suggest that boosters are effective in increasing vaccine-induced immune responses among immunocompromised groups to levels more similar to that of immunocompetent individuals.

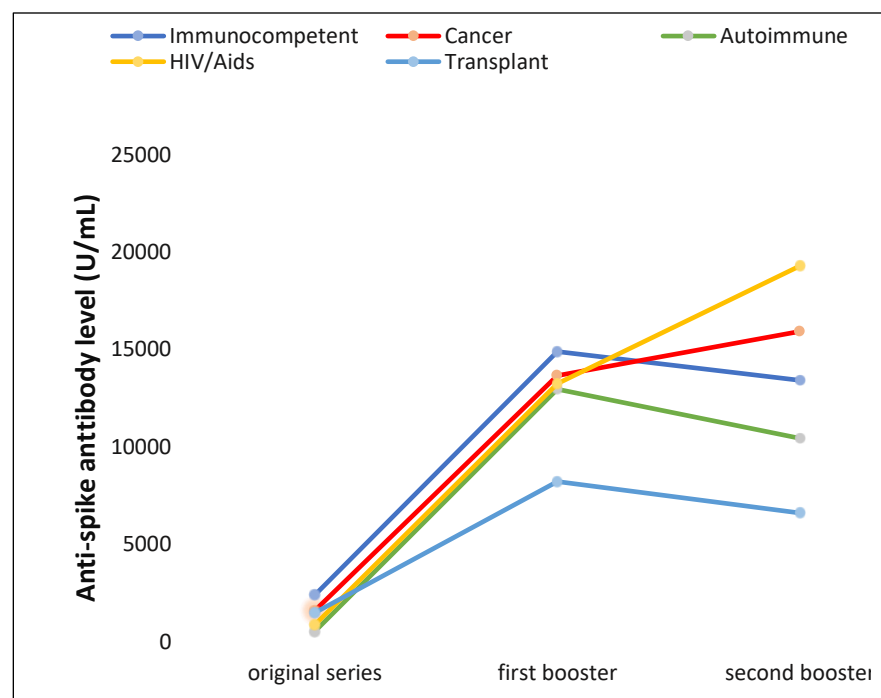


Figure 1. Anti-spike antibody levels after original series, first booster, and second booster vaccines.

### [SeroNet Publications Query on PubMed](#)

Provided by SeroNet in their October 2022 newsletter. Please note articles may not be free, but abstracts can usually be viewed.

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