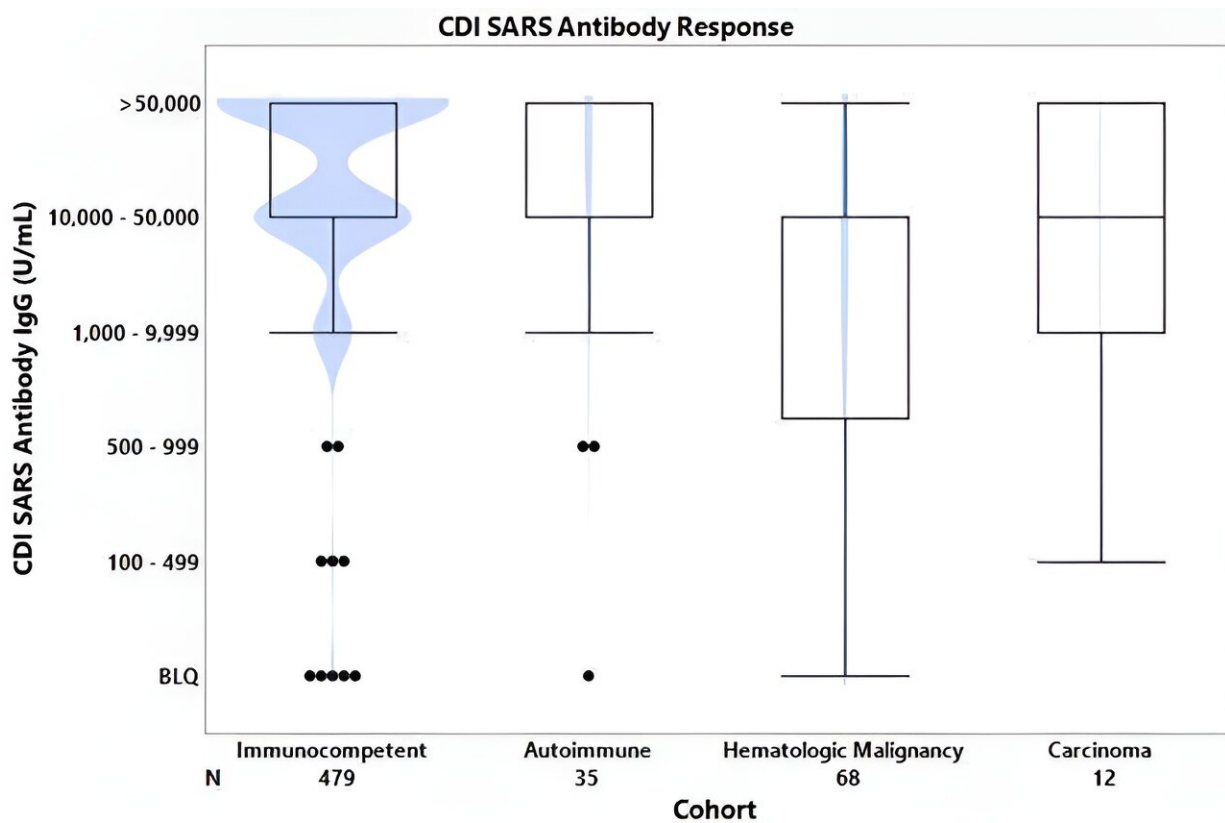


Immunocompromised population shown to react well to COVID-19 vaccine

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Antibody responses based on diagnostic cohorts. Credit: *Microbiology Spectrum* (2024). DOI: 10.1128/spectrum.02050-23

First-year Hackensack Meridian School of Medicine (HMSOM) student Elizabeth Titova leveraged her background in phlebotomy and scientific

research to publish a new clinical study around COVID-19 vaccination [in *Microbiology Spectrum*](#).

In her study, Titova found that while naturally stronger in immunocompetent individuals, the immunocompromised population—"especially [cancer patients](#) undergoing treatment"—still received a "robust immune response" from the vaccine, indicating protection against SARS-CoV-2.

This response would impact both likelihood of infection, as well as the possibility of the disease's progression into its potentially-deadly complications, most prevalent in those with comorbidities including immune deficiency.

The study's importance in the medical community is in providing clinicians with new evidence that vaccinations are still of beneficial effect to [immunocompromised patients](#). This is a notion often questioned by practitioners and patients, alike, since the vaccine's advent in December 2020.

"I was ecstatic to hear that all our efforts have finally come to fruition," said Titova. "These are important results that we collected and analyzed during a global health crisis. We have done our part to bolster the scientific literature."

Titova, of Fair Lawn, N.J., was a scientist and clinical research coordinator for two years at Hackensack Meridian Health's Center for Discovery and Innovation (CDI), completing her 2023 research study before beginning her med school career. She recruited more than 600 patients to assess T-cell and antibody responses in COVID-19 vaccinated patients with special focus on immunocompromised individuals.

Her research was completed in partnership with HMM's John Theurer

Cancer Center (JTCC) and with clinical laboratory firm Quest Diagnostics.

"This was truly a team effort. I want to thank the JTCC clinical team for its help in patient recruitment," said Titova. "I also want to thank the Quest team for helping in every aspect of the process, from coordinating sample collection to assisting with analysis and moving the paper forward to publication."

Titova has been published as a research scientist since first beginning with the CDI, gaining publication and [co-authorship](#) in journals such as *Viruses*, reinforcing the theories of COVID-19 vaccination importance among today's commonly accepted [best practices](#) for stemming the tide of the global SARS-CoV-2 pandemic.

"In her two years working at the CDI, I've personally witnessed so much potential already realized in her career path," said David Perlin, Ph.D., chief scientific officer and executive vice president of the CDI. "I know she'll be a phenomenal clinician through the same dedication and passion she demonstrated in the lab."

"Elizabeth's reputation in medical research preceded her as she chose to chart a path to becoming a physician," said Jeffrey Boscamp, M.D., president and dean of HMSOM. "We are lucky to have such an accomplished and dedicated student on campus, advancing medical science."

More information: Elizabeth Titova et al, Humoral and cellular immune responses against SARS-CoV-2 post-vaccination in immunocompetent and immunocompromised cancer populations, *Microbiology Spectrum* (2024). [DOI: 10.1128/spectrum.02050-23](https://doi.org/10.1128/spectrum.02050-23)

Provided by Hackensack Meridian Health

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