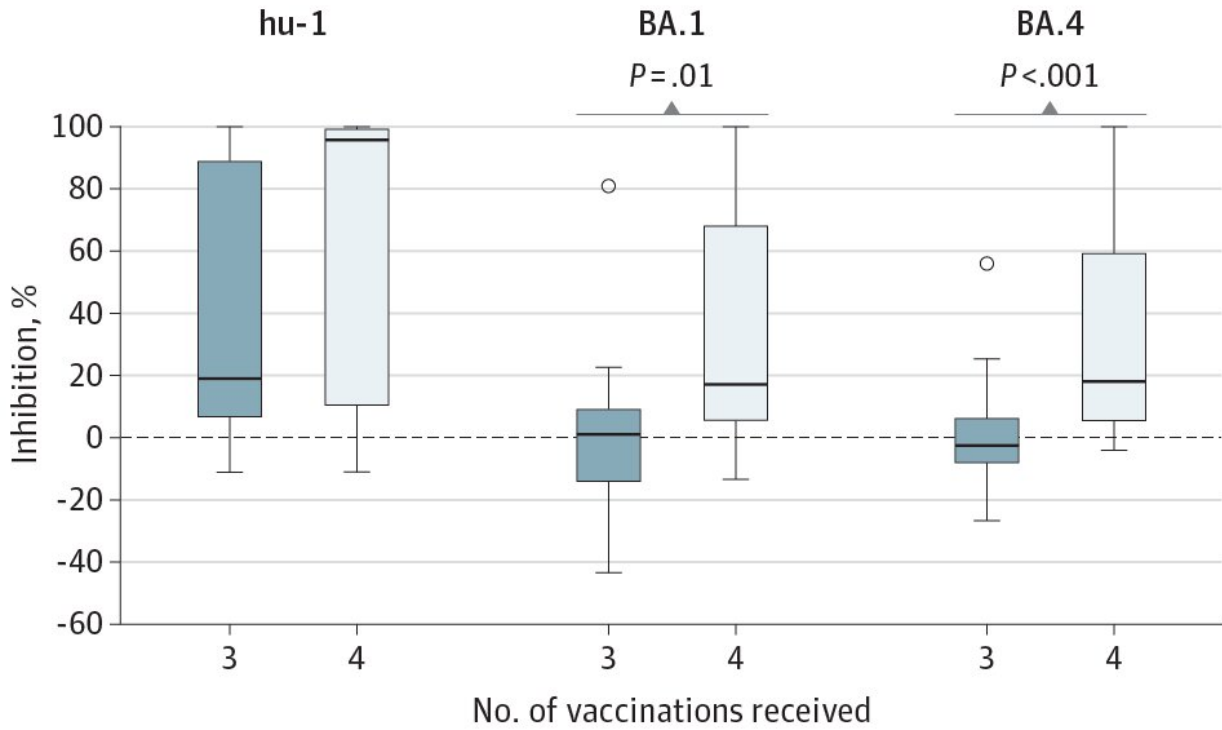


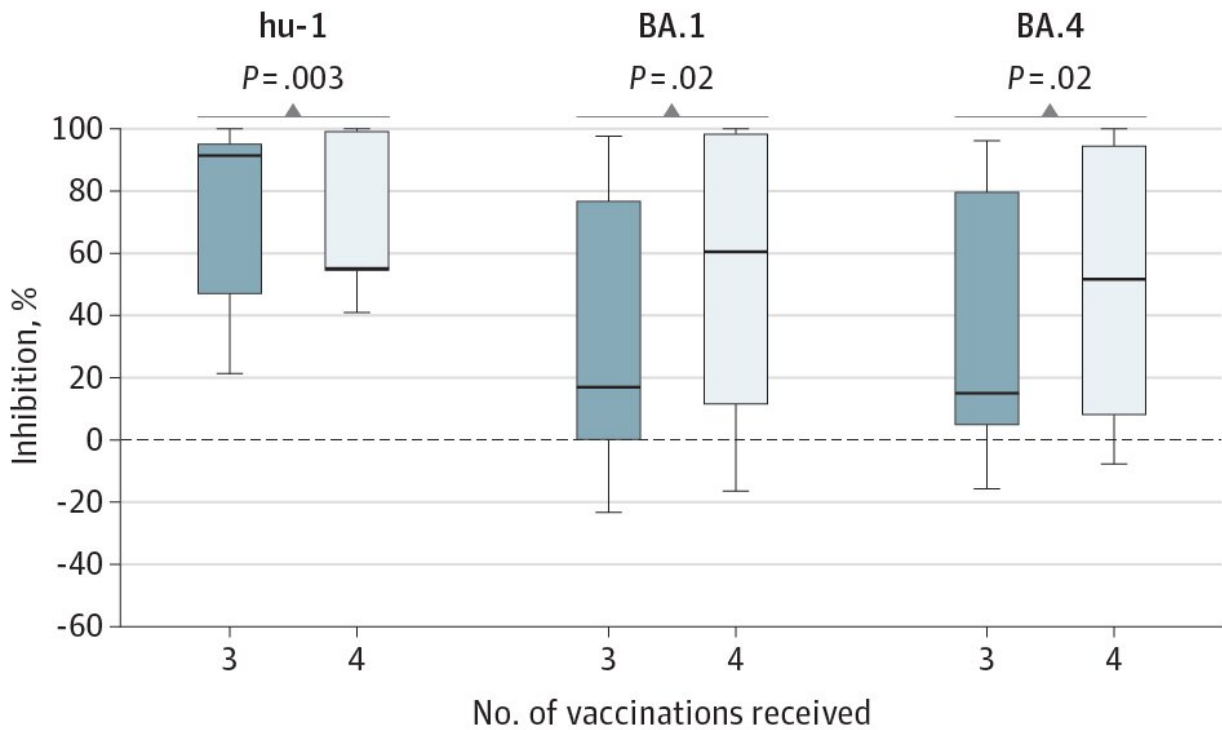
Fourth SARS-CoV-2 vaccination also protects cancer patients

September 23 2022, by Johannes Angerer

A Patients with hematological malignant neoplasm with B cell-targeting treatment



B Patients with hematological malignant neoplasm without B cell-targeting treatment



Receptor-Binding Domain and Angiotensin-Converting Enzyme 2 Interaction Inhibition in Patients With Hematologic Malignant Neoplasm With or Without B Cell–Targeting Treatment Nominal P values without correction for multiple testing were calculated using Wilcoxon signed-rank test. Bars represent the IQR, whiskers represent the 25th/75th percentile \pm 1.5x IQR, and horizontal lines indicate the median. Credit: *JAMA Oncology* (2022). DOI: 10.1001/jamaoncol.2022.4226

A research team led by Matthias Preusser from MedUni Vienna's Division of Oncology had already demonstrated that cancer patients benefit from a third vaccination to protect them against COVID. A recent study now also supports fourth vaccination for this vulnerable group. However, passive immunization by administering an antibody combination to cancer patients does not seem to provide adequate protection. The study has now been published in the journal *JAMA Oncology*.

Seventy-two patients with various types of [cancer](#) participated in the study. Fifty-four of them received a fourth vaccination with one of the currently approved vaccines (active immunization), and 18 underwent passive immunization with the antibody combination tixagevimab/cilgavimab. In order to assess immunity, the investigators compared antibody levels and their [inhibitory effect](#) against the SARS-CoV-2 subvariants omicron BA.1 and BA.4 after three and four vaccinations and following administration of the antibody combination tixagevimab/cilgavimab.

Significant increase in antibody levels following vaccination

Patients with [solid tumors](#) and those with hematological cancers not on anti-B cell therapy showed a significant increase in antibody levels after a fourth dose of one of the currently approved vaccines. Based on the obtained data, study leader Matthias Preusser from the Division of Oncology at MedUni Vienna's Department of Medicine I concludes that the administration of a fourth vaccination in cancer patients should be endorsed in patients with cancer, even in the absence of variant-specific vaccines.

However, this is not the case for passive immunization of patients: "Our results suggest that immunization with tixagevimab/cilgavimab does not effectively block the most recently dominant BA.4 variant," said first author of the study, Maximilian Mair from MedUni Vienna's Division of Oncology. Further studies are now required to confirm the results to back up the vaccination recommendations. Moreover, there is still a lack of reliable information allowing the definition of a valid threshold for sufficient [antibody levels](#) to provide adequate protection against SARS-CoV-2 infection.

Society must protect vulnerable group

Cancer patients are often on immunosuppressive therapies. As a result, [cancer patients](#) are particularly at risk of developing severe clinical courses of COVID-19, underscoring the importance of SARS-CoV-2 vaccination.

"We recommend a prompt fourth vaccination for the particularly vulnerable group of patients with cancer. In addition to this, our patients continue to rely on the protection provided by a responsible society and [control measures](#) such as isolation of infected individuals and the wearing of facemasks in indoor settings. Furthermore, even mild cases of COVID-19 can lead to deferral of urgently needed cancer treatments, which can adversely affect the cancer prognosis," said study leader

Matthias Preusser, as COVID restrictions are increasingly being lifted.

More information: Maximilian J. Mair et al, Inhibition of SARS-CoV-2 Omicron BA.1 and BA.4 Variants After Fourth Vaccination or Tixagevimab and Cilgavimab Administration in Patients With Cancer, *JAMA Oncology* (2022). [DOI: 10.1001/jamaoncol.2022.4226](https://doi.org/10.1001/jamaoncol.2022.4226)

Provided by Medical University of Vienna

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