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## Letter to the editor

## Heterologous Gam-COVID-Vac (Sputnik V)/mRNA-1273 (Moderna) vaccination: Author's response

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## To the Editor:

We appreciate the observation from the authors Rujittika Mungmunpantipantip and Viroj Wiwanitkit [1] regarding our publication [2]. Certainly, there is a vast number of factors that may affect immunological parameters from a greater to a lesser extent. We agree this is an important aspect, so the analysis of the immunological parameters assessed in our work has considered the broadly established factors that may have potentially impacted the immune response in our setting. Although elevated anti-S-RBD immunoglobulin (IgG) values after asymptomatic COVID-19 cannot be excluded, both groups of our comparative study would have been affected similarly; therefore, an impact on the conclusions would unlikely be altered. Moreover, the detection of the nucleoprotein IgG antibody to distinguish vaccine-induced seropositivity from natural infection is limited due to its significant decrease after 120 days postinfection period [3]. Consequently, we felt that the analytical approach initially performed in our research was accurate. Finally, the immune response variations according to different

boost vaccination schemes observed in our study were also registered in a subset of patients receiving dialysis [4] and confirmed by a recently published study that assessed the humoral response to several vaccination schemes, including the homologous prime-boost vaccination with Gam-COVID-Vac and the heterologous combination with mRNA-1273 (Moderna) vaccine [5].

## Transparency declaration

The authors have no conflicts of interest to declare.

## Author's contributions

Lucas Amaya, Patricia Bare, Natalia Echegoyen, María Noel Badano, Alicia Lucero, Antonella Martelli, Gabriel H. García, Cristina Videla and Alfredo P. Martínez: revising the letter critically for important intellectual content, final approval of the version to be submitted. Matías J. Pereson, Karin Neukam and Federico A. Di Lello: drafting the letter.

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## References

- [1] Mungmunpantipantip R, Wiwanitkit V. Re: Heterologous Gam-COVID-Vac (Sputnik V)/mRNA-1273 (Moderna) vaccination. Clin Microbiol Infect 2022;28:1513. <https://doi.org/10.1016/j.cmi.2022.06.007>.

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- [2] Pereson JM, Amaya L, Neukam K, Baré P, Echegoyen N, Badano MN, et al. Heterologous Gam-COVID-Vac (Sputnik V)/mRNA-1273 (Moderna) vaccination induces a stronger humoral response than homologous Sputnik V in a real-world data analysis. *Clin Microbiol Infect* 2022;28:1382–8. <https://doi.org/10.1016/j.cmi.2022.05.009>.
- [3] Scheiblaue H, Nübling CM, Wolf T, Khodamoradi Y, Bellinghausen C, Sonntagbauer M, et al. Antibody response to SARS-CoV-2 for more than one year - kinetics and persistence of detection are predominantly determined by avidity progression and test design. *J Clin Virol* 2022;146:105052.
- [4] Laham Gustavo, Martínez Alfredo P, Gimenez Wanda Rojas, Lucas Amaya, Abib Anabel, Echegoyen Natalia, et al. Assessment of the humoral response to the homologous Gam-COVID-Vac (Sputnik V) or heterologous Sputnik V/mRNA-1273 (Moderna) vaccination against SARS-CoV-2 in dialysis patients [e-pub ahead of print]. *MedRxiv* 2022. <https://doi.org/10.1101/2022.05.13.22275049>. Accessed on May 19th.
- [5] Macchia A, Ferrante D, Bouzas MB, Angeleri P, Biscayart C, Geffner J, et al. Immunogenicity induced by the use of alternative vaccine platforms to deal with vaccine shortages in a low- to middle-income country: results of two randomized clinical trials. *Lancet Reg Health Am* 2022;9:100196.