

Improved control of SARS-CoV-2 by treatment with nucleocapsid-specific monoclonal antibody

Tanushree Dangi¹, Sarah Sanchez¹, Jacob Class², Michelle Richner², Lavanya Visvabharathy³, Young Rock Chung¹, Kirsten Bentley⁴, Richard J. Stanton⁴, Igor J. Koralnik³, Justin M. Richner^{*2}, Pablo Penaloza-MacMaster^{*1}

¹Department of Microbiology and Immunology, Northwestern University Feinberg School of Medicine, Chicago, IL 60611. ²Department of Microbiology & Immunology, University of Illinois at Chicago College of Medicine, Chicago, IL 60612. ³Ken and Ruth Davee Department of Neurology, Feinberg School of Medicine, Northwestern University, Chicago, Illinois, USA. ⁴Division of Infection and Immunity, School of Medicine, Cardiff University, Cardiff, United Kingdom.

***Correspondence and Lead contacts:**

Justin Richner (richner@uic.edu) & Pablo Penaloza-MacMaster
(ppm@northwestern.edu)

Supplemental Figures:

Figure S1

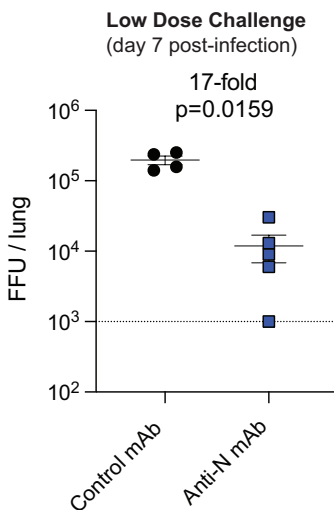


Figure S1. Nucleocapsid-specific monoclonal antibody (mAb) improves the control of SARS-CoV-2 infection. Viral loads in lungs by focus forming assays. These data are from the same mice from Figure 6A-6C, except that viral loads in lungs were quantified by focus forming assays. Challenges were performed with a total of 4-5 mice per group in Biosafety level 3 (BSL-3) facilities. Indicated P-values were calculated using Mann Whitney test.

Figure S2

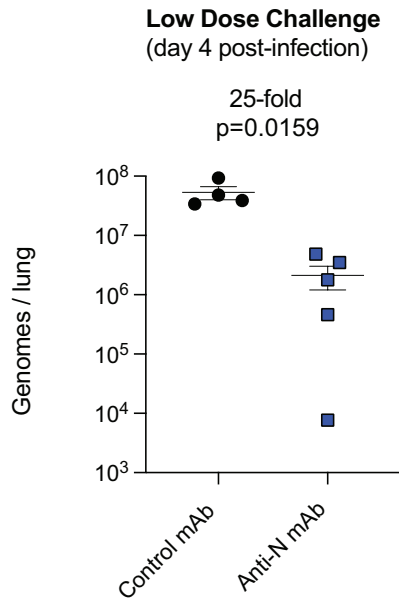


Figure S2. Nucleocapsid-specific monoclonal antibody (mAb) improves the acute control of SARS-CoV-2 infection. Viral loads in lungs by RT-qPCR. Experiment was identical to that of Figure 6A, except that mice were euthanized after 4 days. Challenges were performed with a total of 4-5 mice per group in Biosafety level 3 (BSL-3) facilities. Indicated P-values were calculated using Mann Whitney test.

Figure S3

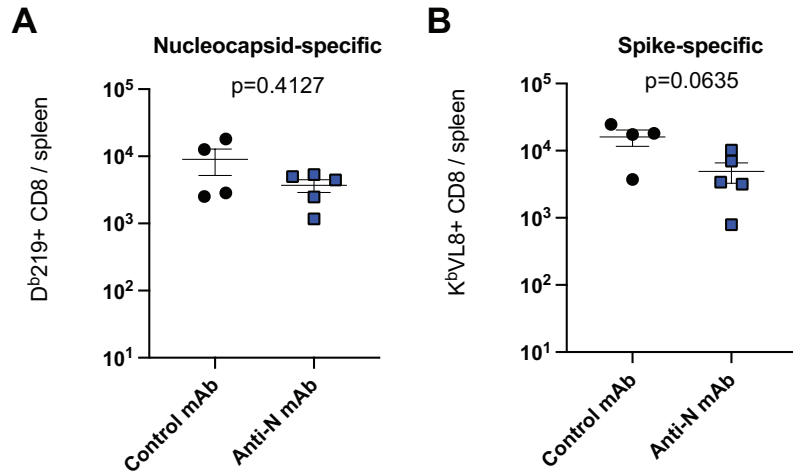


Figure S3. Nucleocapsid-specific monoclonal antibody (mAb) does not significantly affect virus-specific CD8 T cell responses. (A) Numbers of SARS-CoV-2 nucleocapsid-specific CD8 T cells. **(B)** Numbers of SARS-CoV-2 spike-specific CD8 T cells. These data are from the same mice from Figure 6A-6C. Data are from spleen at day 7 post-infection. Challenges were performed with a total of 4-5 mice per group in Biosafety level 3 (BSL-3) facilities. Indicated P-values were calculated using Mann Whitney test.