

Microfluidic Characterisation reveals Broad Range of SARS-CoV-2 Antibody Affinity in Human Plasma

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(Note: With the exception of the correction of typographical or spelling errors that could be a source of ambiguity, letters and reports are not edited. The original formatting of letters and referee reports may not be reflected in this compilation.)

Please note that the manuscript was reviewed at *Review Commons* and these reports were taken into account in the decision-making process at *Life Science Alliance*.



Review
COMMONS

November 10, 2021

RE: Life Science Alliance Manuscript #LSA-2021-01270

Prof. Adriano Aguzzi
University Hospital Zurich
Dept. of Pathology
Institute of Neuropathology
Zurich, ZH 8091
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Dear Dr. Aguzzi,

Thank you for submitting your revised manuscript entitled "Microfluidic Affinity Profiling reveals a Broad Range of Target Affinities for Anti-SARS-CoV-2 Antibodies in Plasma of Covid Survivors". We would be happy to publish your paper in Life Science Alliance pending final revisions necessary to meet our formatting guidelines.

Along with points mentioned below, please tend to the following:

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- please add your main, supplementary figure, and table legends to the main manuscript text after the references section
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Thank you for your attention to these final processing requirements. Please revise and format the manuscript and upload materials within 7 days.

Thank you for this interesting contribution, we look forward to publishing your paper in Life Science Alliance.

Sincerely,

Novella Guidi, PhD
Scientific Editor
Life Science Alliance

Reviewer #1 (Comments to the Authors (Required)):

This article focuses on the utilization of a microfluidics-based approach to assess the interaction affinity kinetics of complex antibody mixtures from patient samples to the RBD region of the SARS-CoV-2 Spike protein. The authors find that their platform is capable of reasonably estimating dissociation constants for the overall antibody mixture in a given plasma sample. Furthermore, they provide evidence that while antibody concentrations in plasma were similar across patients, the Kd of the plasma for RBD varied considerably. Using this approach, they show that in a modestly sized cohort, the aggregate antibody affinity of a plasma sample must be tighter than the S1/ACE2 interaction affinity to enable viral neutralization function.

The authors have diligently answered all my prior concerns. I have no further comments or requests. I do not feel any further issues need to be addressed.

November 15, 2021

RE: Life Science Alliance Manuscript #LSA-2021-01270R

Prof. Adriano Aguzzi
University of Zurich
Dept. of Pathology
Institute of Neuropathology
Zurich, ZH 8091
Switzerland

Dear Dr. Aguzzi,

Thank you for submitting your Research Article entitled "Microfluidic Characterisation reveals Broad Range of SARS-CoV-2 Antibody Affinity in Human Plasma". It is a pleasure to let you know that your manuscript is now accepted for publication in Life Science Alliance. Congratulations on this interesting work.

The final published version of your manuscript will be deposited by us to PubMed Central upon online publication.

Your manuscript will now progress through copyediting and proofing. It is journal policy that authors provide original data upon request.

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Again, congratulations on a very nice paper. I hope you found the review process to be constructive and are pleased with how the manuscript was handled editorially. We look forward to future exciting submissions from your lab.

Sincerely,

Novella Guidi, PhD
Scientific Editor
Life Science Alliance