



June 24, 2020

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Benjamin Werth,
Sr. Science Editor - Chemistry | Biochemistry
JoVE

Dear Benjamin,

I would like to submit the manuscript "Rapid Determination of Antibody-Antigen Affinity by Mass Photometry", by Di Wu and myself, for consideration in JoVE.

It describes the application of a recently developed single molecule technique, mass photometry, for antigen-antibody affinity measurements. Mass photometry is able to very quickly measure interaction affinities in solution using only a small amount of unmodified sample. We believe that the advantages of this new method, primarily its sensitivity, speed and accuracy, will make it extremely useful for the characterization of antibody binding properties. The manuscript describes both the experimental and data analysis procedures. Since in the case of antigens binding to two independent binding sites the data analysis will require fitting a cubic equation, we included a non-linear least squares fitting tool that we developed in Excel with the manuscript. We believe that this tool will be useful to JoVE readers who would like to apply this technique but lack access to a more sophisticated data analysis software.

As unbiased reviewers, none of whom have previously seen this manuscript, we suggest Dr. Sandro Keller, Dr. Joy Zhao, and Dr. Wojciech Kuban, who are all extremely experienced and recognized leaders in the field of biophysical interaction measurements.

To avoid a potential conflict of interest, we would prefer if the manuscript not be sent to colleagues associated with the mass photometer manufacturer, Refeyn, including Dr. Philipp Kukura.

Thank you very much for your consideration, and for the invitation to submit this manuscript,

Sincerely

Grzegorz Piszczek, Ph.D.
Director, Biophysics Core Facility
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