***eLife’s* transparent reporting form**

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* You should state whether an appropriate sample size was computed when the study was being designed
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Data for Figures 4a, 4e, 4c, and 5i and Matlab software codes for particle tracking can be found in the public access online repository **https://gitlab-public.circ.rochester.edu/araghuna/bulk-flow-is-not-an-artifact\_raghunandan\_et\_al\_2021.git**