

Supplementary Materials: Numerical and experimental analyses of three-dimensional unsteady flow around a micro-pillar subjected to rotational vibration

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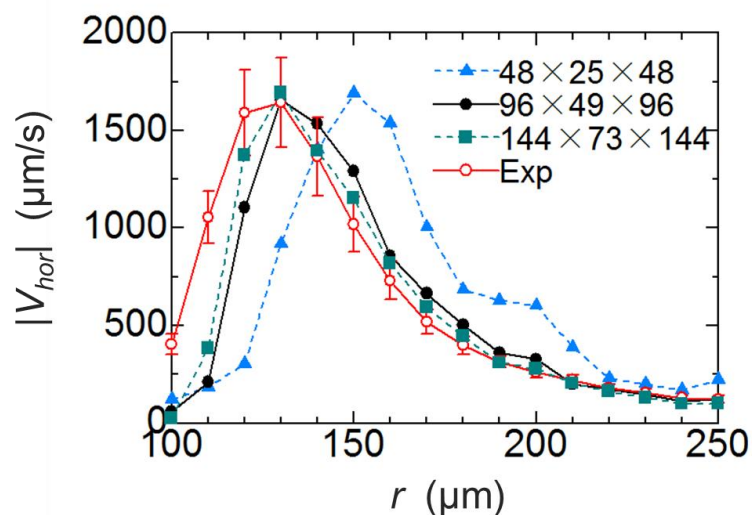


Figure S1. Comparison with the radial profile of $|V_{hor}|$ calculated with different grid resolutions in the numerical simulation. The distribution calculated with a low-resolution grid ($48 \times 25 \times 48$) differ significantly, but those calculated with medium ($96 \times 49 \times 96$; used in the main results) and high-resolutions ($144 \times 73 \times 144$) were similar.

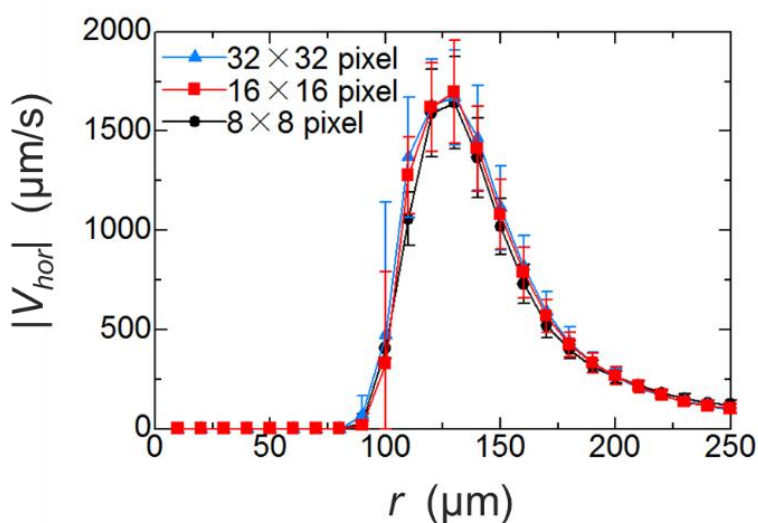


Figure S2. Comparison of the radial profile of $|V_{hor}|$ calculated with different window size in PIV analysis. One pixel in images corresponds to $0.8 \mu\text{m}$.

Supporting Movie S1: Animation of the velocity field (u_1, u_3) at $y = 50 \mu\text{m}$ obtained from the numerical simulation.

Supporting Movie S2: Motion of a tracer particle depicted in Figure 13 (a) in the main text.

Supporting Movie S3: Motion of a tracer particle depicted in Figure 13 (b) in the main text.