Low-energy shock waves evoke intracellular Ca^{2+} increases independently of sonoporation

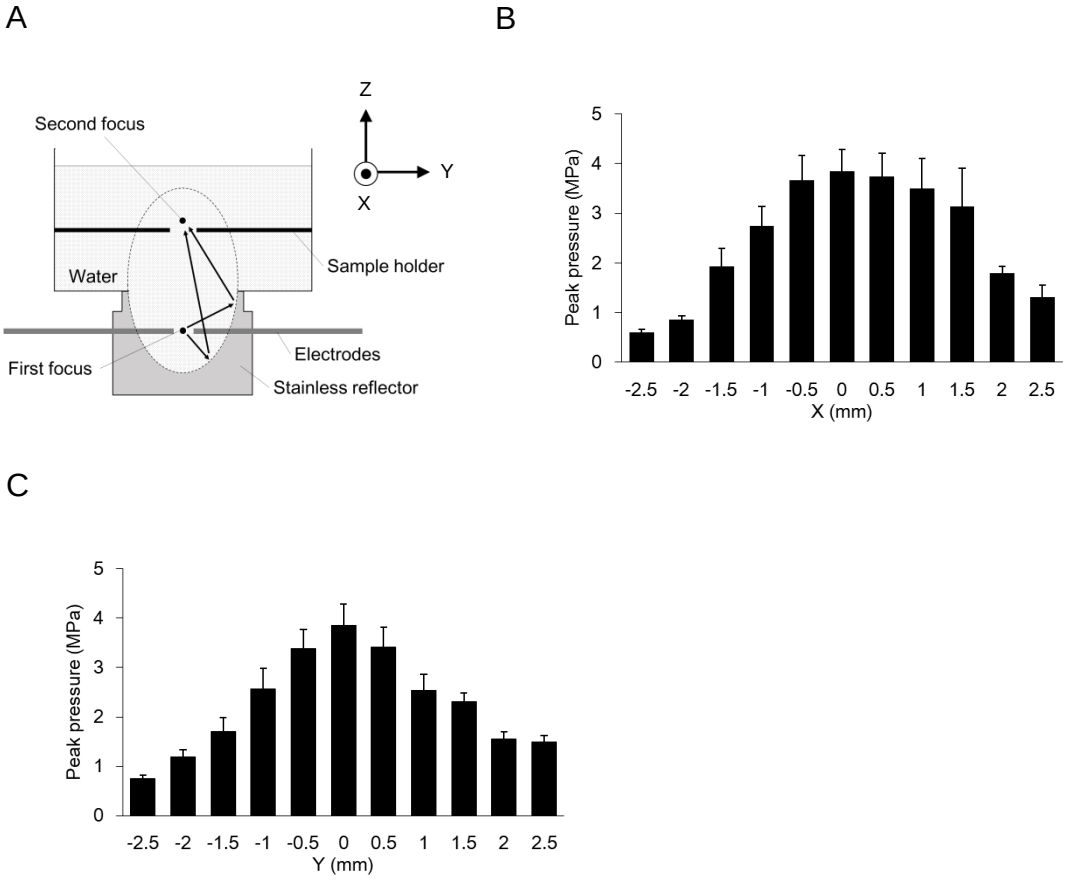
Toru Takahashi[1], Keiichi Nakagawa[2], Shigeru Tada[1], Akira Tsukamoto[1,*]

[1]Department of Applied Physics, Graduate School of Science and Engineering, National Defense Academy, Hashirimizu 1-10-20, Yokosuka, Kanagawa 239-8686 Japan

[2]Department of Precise Engineering, Graduate School of Engineering, The University of Tokyo, Hongo 7-3-1, Bunkyo-ku, Tokyo 113-8656 Japan

*Email: tsuka@nda.ac.jp

SUPPLEMENTARY FIGURES



Supplementary Figure S1. Peak pressure distribution along X- and Y-axes. (A) Shock waves were generated at the first focus on the spheroidal surface of a stainless reflector,. Following the reflection, shock waves were refocused to the second focus. The X- and Y-axes were set perpendicular shock wave transmission. Peak pressure distributions along the X-axis (B) and Y-axis (C) show uniform distribution close to the second focus.

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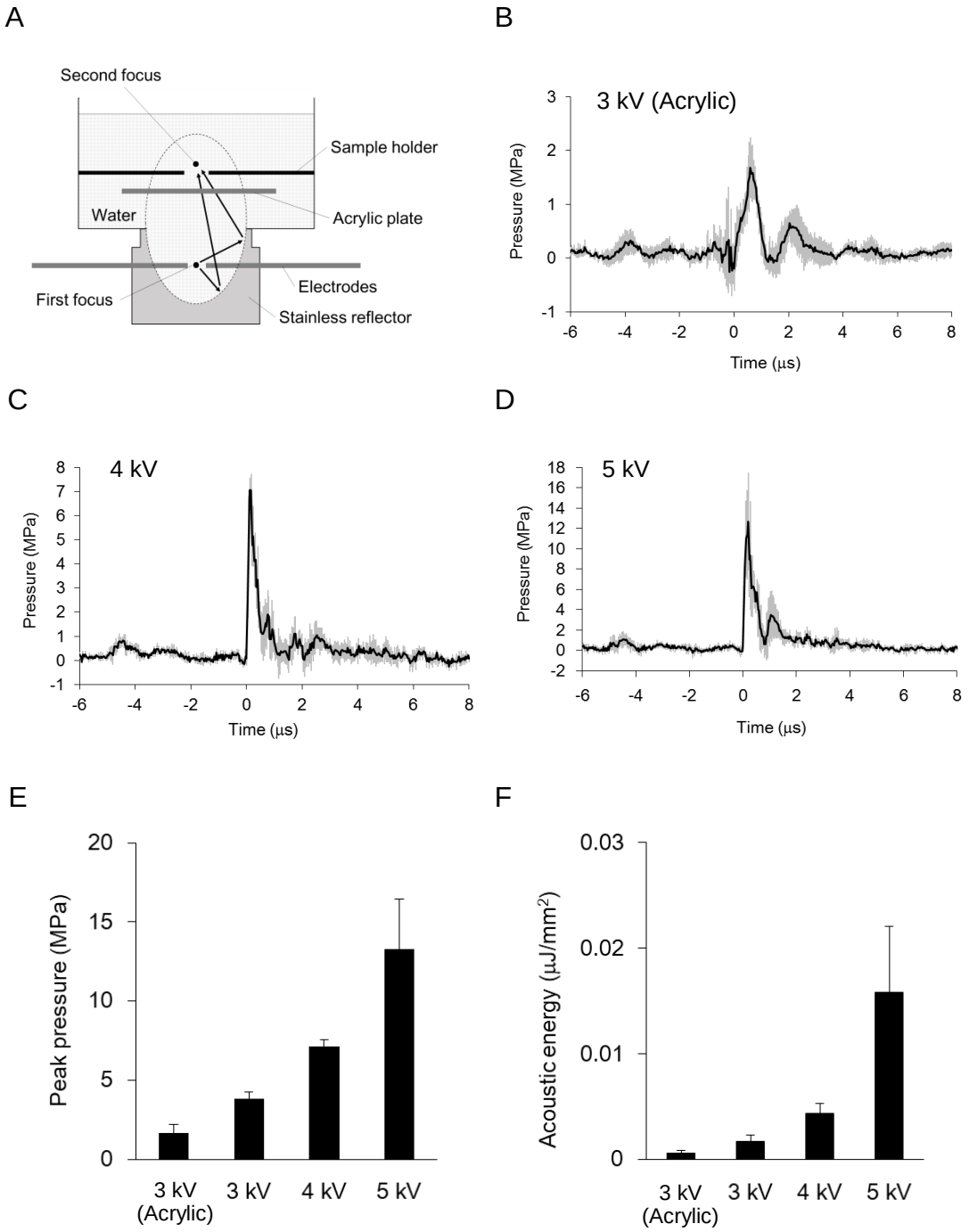
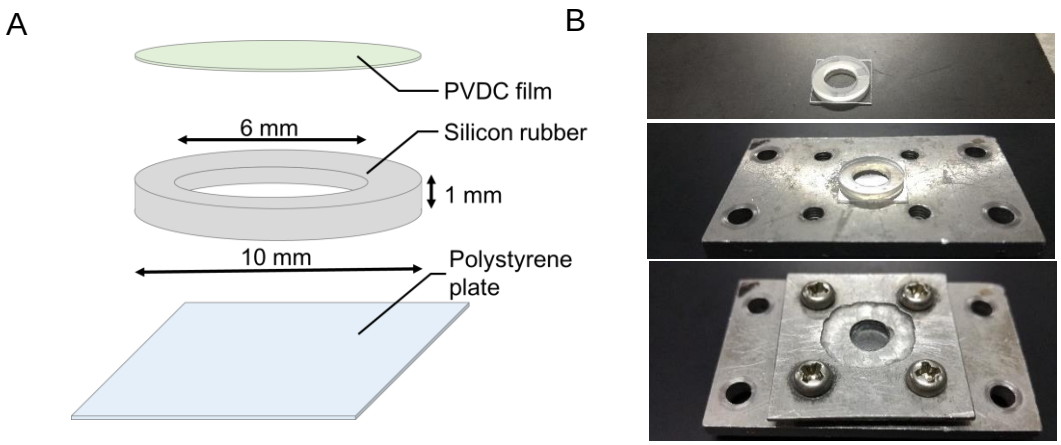

A
Second focus
Sample holder
Water
Acrylic plate
Electrodes
First focus
Stainless reflector
B
3 kV (Acrylic)
Pressure (MPa)
Time (μs)
C
4 kV
Pressure (MPa)
Time (μs)
D
5 kV
Pressure (MPa)
Time (μs)
E
Peak pressure (MPa)
3 kV (Acrylic)
3 kV
4 kV
5 kV
F
Acoustic energy (μJ/mm²)
3 kV (Acrylic)
3 kV
4 kV
5 kV

29

30

31

Supplementary Figure S2. Dependence of peak pressure and acoustic energy on shock wave irradiation conditions. (A) Peak pressure and acoustic energy were suppressed by inserting an acrylic plate. (B) A pressure profile of LESWs having a discharge voltage of 3 kV with the inserted acrylic plate (means ± SEMs, N = 4). (C) Pressure profile of LESWs with a discharge voltage of 4 kV (means ± SEMs, N = 4). (D) A pressure profile of LESWs with a discharge voltage of 5 kV (means ± SEMs, N = 4). Peak pressure (E) and acoustic energy (F) of shock waves generated and transmitted under different conditions.



Supplementary Figure S3. Cell chamber and its holders. (A) Assembly of cell chamber. (B) Combining cell chamber with its holder before setting in the sonication chamber.