Electronic Supplementary Material (ESI) for Analyst.

Supplementary Materials

Lab on a Chip Sensor for Rapid Detection and Antibiotic Resistance Determination of Staphylococcus Aureus

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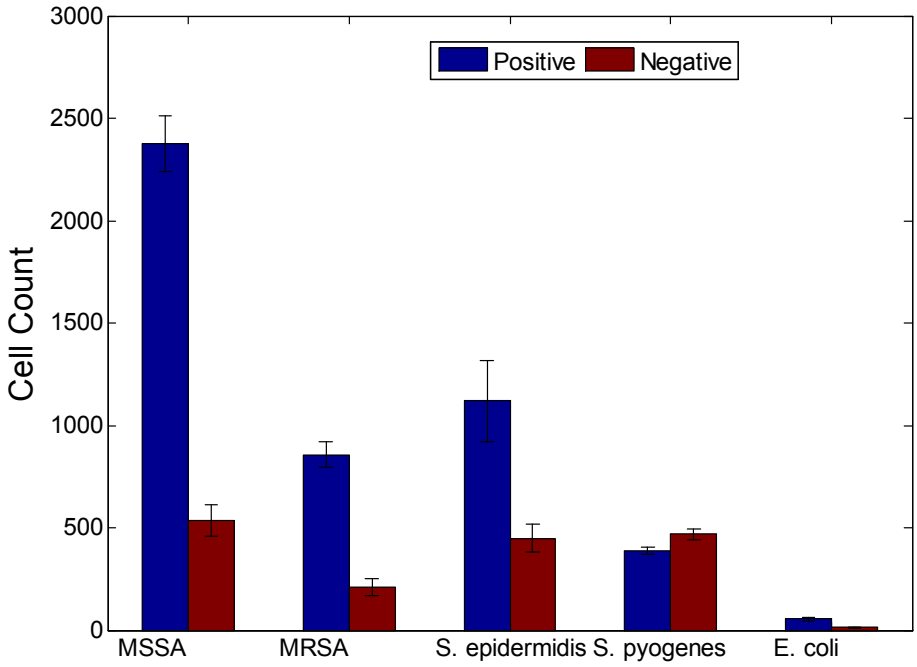

Fig. S1: Specificity of anti-S. aureus antibody. The negative control was not incubated with the antibody. Here, *S. aureus* (MSSA and MRSA), *S. epidermidis, S. pyogenes and E. coli*) in stationary phase (≈ 10^9 cells/ml) were incubated for 1 hour in both positive and negative controls. The difference in number of cells of positive and negative control gives the number of cells bound to the antibody.

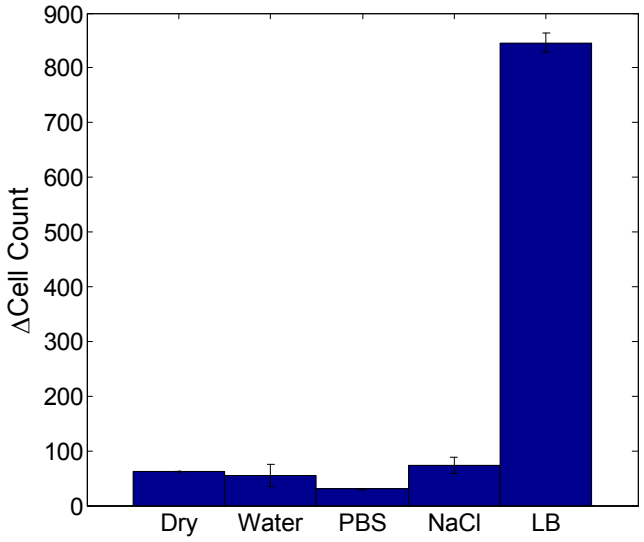

Fig. S2: Growth of *S. aureus* (MSSA) bacterial colonies in various growth media. Here, air (dry), Milli-Q water, 1X phosphate buffered saline (PBS), 1M sodium chloride (NaCl) and Luria broth (LB) were used as the growth mediums. The difference between the cell count after immobilization of *S. aureus* on glass slides and the cell count after overnight incubation gives the rate of growth of *S. aureus* in various media.

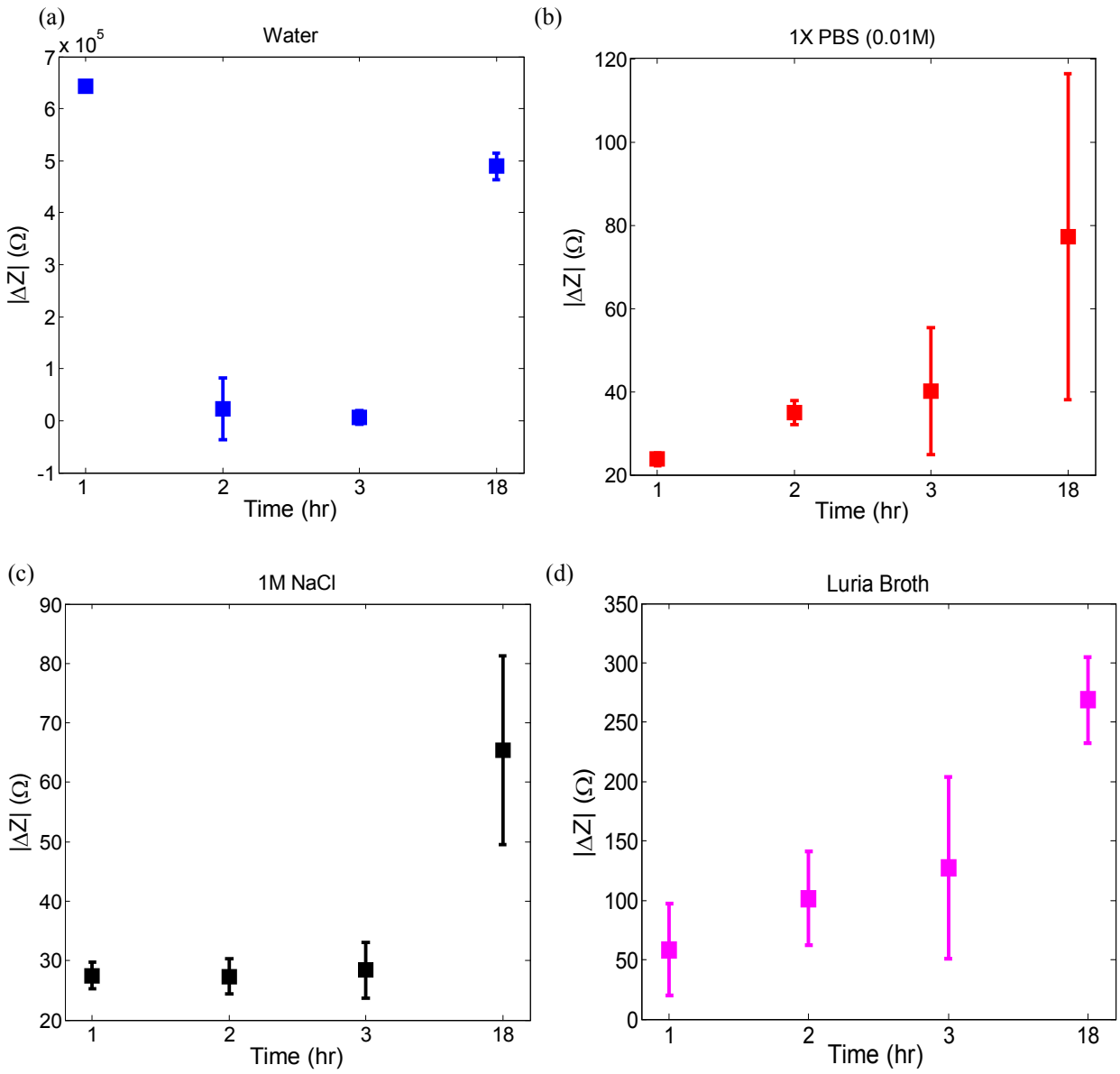

Fig. S3: Changes in impedance of the sensor due to *S. aureus* (MSSA) growth compared to the empty sensor. Here, Milli-Q water, PBS, 1M NaCl and LB were used as the growth mediums. The lock-in-amplifier measurements were performed at 100 kHz.