

### Ultrasensitive Single-Nanowire-on-Film SERS Sensor for Hg<sup>2+</sup> Detection

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The development of sensor for Hg<sup>2+</sup> detection has constantly come into a spotlight due to its high impact for human health care. Surface-enhanced Raman scattering (SERS), which can provides single molecule sensitivity, molecular specificity, and facile detection, have rarely been applied to the detection of Hg<sup>2+</sup> because of difficulties in quantitative analysis. This study reports novel single-nanowire-on-film (SNOF) SERS sensor for the detection of Hg<sup>2+</sup> based on a structure-switching aptamer which provides ultrasensitivity, selectivity, and reusability. We expect that this sensor can be applied for multiplex detection of metal ions. [This research was supported by WCU program through the National Research Foundation of Korea funded by the Ministry of Education, Science and Technology (R32-2008-000-10142-0)]