

Localized surface plasmon resonance based cell sensor for the simple detection of bacteria

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The localized surface plasmon resonance (LSPR) -based sensor was developed for the simple and label -free detection of bacteria. The cell sensor comprises a dielectric layer comprising two thin gold layers and silica nanoparticles deposited onto glass substrate (1). The functionalization of aptamer on a chip enables the simple and specific detection of bacterial cells without the need for any modification or purification steps. Using this sensor, three different bacteria were successfully identified. We anticipate that this label -free, multiplex, and accurate bacterial cell sensor will prove useful for diagnosing various infectious diseases in a single assay by combining our LSPR sensor with various species -specific aptamers. [This work was supported by the Bio -Synergy Research Project (2012M3A9C4048759) of the Ministry of Science, ICT and Future Planning through the National Research Foundation.]