Electrical biosensor using density-controlled SWNT for the detection of pathogenic bacteria

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We developed electrical biosensor for the detection of pathogenic DNA detection. The sensor consisted of single walled carbon nanotube (SWNT) based two-terminal resistor and recognized pathogenic DNA present on the sensor by measuring a change in conductance of resistor. Using this sensor, we successfully detected target DNAs from reference strains and clinical isolates of *Staphylococcus aureus.* This SWNT based electrical sensor developed here can be used a platform for potential use in a hand-held pathogen detector with high sensing performance. [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.