

Rapid Detection of Bacterium in Biosensors and Nano sensors

Deck-Ho Kim*

Institute of Stem Cell and Regenerative Medicine, University of Washington, USA

Bacteria are widely found in varied environments, like soils, marine and estuarial water, enteric tract of animals, and waste water. Normally, the bacterium don't seem to be visible to human eyes thanks to their little size of typically some micrometers long, with the shapes of spheres, rods or spirals. The principle of a biosensor is to use biological materials (i.e., antimicrobial peptides, lectin, protein and aptamer) to acknowledge a target molecule, and turn out detectable signals. The elements of the biosensor embody biological device, transducer, signal electronic equipment and signal processor. The presences of bacterium are often harmful to human/animal health, food safety, environmental conservation, and infrastructure integrity. Therefore, development of correct, effective and speedy strategies for microorganism detection is crucial to bar and management of harmful of bacterium within the environments. Bacterial infective agent detection specializing in the anatomy, microorganism infections caused chiefly by gram-negative microorganisms represent a selected challenge in human health worldwide. Multidrug resistance variants are greatly influenced by their indiscriminate exposure to antibiotics discharged in water, addition to food or additional usually, thanks to improper use of those medication from patients. The gram-

negative microorganism, Shigella, belongs to the family Enterobacteriaceae family. Infected folks develop various symptoms as well as looseness of the bowels, cramps, fever, and vomit. Over time, several techniques and strategies are developed for detection pathogens like viruses and bacterium, as well as quantitative analysis strategies, visible light polarization, and chemical science analysis.

Bacterial and infective agent outbreaks have caused several problems in medical specialty, food, and environmental context, creating necessary the event of latest ways that permit quicker detection of those pathogens to effectively contain and management their impact on human health. Designed high-specific biosensors supported SPR and TIRE for enteric bacteria spp. detection. These devices utilized Ag-Ab reactions and a surface binding layer because the reactive half. The new functioned materials, i.e., nanoparticles, nanowires and quantum dots, give access to sensitive signal transduction strategies to notice microorganism cells. A superb integration of organic chemistry, biology, applied science, physics and physical science would facilitate the event of superior biosensors for bacterium detection.

**Address for Correspondence: Deck-Ho Kim, Institute of Stem Cell and Regenerative Medicine, University of Washington, USA, E-mail: deckho@uw.edu*

Copyright: © 2021 Deck-Ho Kim. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received 04 March 2021; **Accepted** 12 March 2021; **Published** 18 March 2021

How to cite this article: Deck-Ho Kim. Rapid Detection of Bacterium in Biosensors and Nano sensors. *J Biosens Bioelectron* 12 (2021): e105.