

E-babe-bioluminescence bacteria environmental applications

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Luminescent bacteria are microorganisms able to emit blue to green bioluminescence within normal metabolism and depend on the enzyme system of bioluminescence. In the laboratory, luminous bacteria are growing in liquid media. At low cell density, the emitted light is being reduced because of the weak expression of the luxCDABE genes and the precursor's deficiency of the bacterial luciferase reaction. The luminescence tests have the advantages of being rapid, sensitive, costless and reproducible. A variety of microbial bioluminescent biosensors have been designed to detect metal contaminants in the environment. These biosensor systems are becoming appropriate alternatives to the traditional analytical methods including respirometry, measurement of bacterial growth inhibition, chemical analysis, and microscopic analysis. Bio-reporters provide a unique analytical capability because contaminants are

quantified relative to the concentrations experienced by the bio-reporter organism as opposed to being relative to the extraction technique that is used for traditional analysis.

Biography

Abdul-Rhman H Muhammad has completed his master degree from Cairo University and work as research assistant ship at at Environmental Biotechnology Department, Genetic Engineering and Biotechnology Research Institute (GEBRI), Scientific Research and Technological Applications City (SRTA-City). He has published paper in biocatalysis and agricultural biotechnology journal junder titile Studying the behavior of the light-off bioreporter DF4/PUTK2 as a light-on assay against lead, He received the Next Generation Scholars Scholarship, which is granted to outstanding students and top university graduates to study for a master's degree.

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