

Bioluminescence as tool to environmental contamination detection

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Abstract

Recombinant bioluminescent bacteria are frequently directed towards use as environmental biosensors because it has high sensitivity, selectivity, costless, easy to use and function as rapid measurement to detect heavy metals. The bioluminescence of DF4/PUTK2 assay is based on using the bio-reporter *Acinetobacter* DF4/PUTK2 carrying luciferase genes *luxCDABE* which emit light constitutively. This can be measured in time intervals by luminometer to determine the behavior of bio-reporter against lead. The light emitted in the lead treated samples was equal or increased than the control. Therefore, the bio-reporter DF4/PUTK2 was subjected to intensive studies to elucidate its behavior with lead and if it was possible to be employed as a lead light-on assay in water in reverse order.

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.



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