

Cesium-induced Inhibition of Bacterial Growth of *Pseudomonas aeruginosa* PAO1 and Their Possible Potential Applications for Bioremediation of Wastewater

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Radioactive isotopes have attracted considerable attention because of their long lasting serious damage to the health of humans and other organisms. This study examined the toxicity and accumulation behavior of cesium towards *P. aeruginosa* PAO1 and its capacity to remove cesium from waste water. Interestingly, the programmed bacterial growth inhibition occurred according to the cesium environment. The toxicity of *P. aeruginosa* PAO1 increases as the concentration of cesium is increased in concentration-dependent manner. In addition, *P. aeruginosa* PAO1 shows excellent Cs removal efficiency of 76.1% from the contaminated water. Finally, the removal of cesium from wastewater using *P. aeruginosa* PAO1 as a potential biosorbent and the blocking of competitive interactions of other monovalent cation, such as potassium, were assessed. Overall, *P. aeruginosa* PAO1 can be used as a high efficient biomaterial in the field of radioactive waste disposal and management.