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Books Conferences News About Us Home Journals Jobs Home > Journal > Biomedical & Life Sciences > ABB • Open Special Issues Indexing View Papers Aims & Scope Editorial Board Guideline Article Processing Charges • Published Special Issues ABB> Vol.4 No.1, January 2013 • Special Issues Guideline OPEN ACCESS ABB Subscription Simultaneous removal of cesium and strontium using a photosynthetic bacterium, Rhodobacter sphaeroides SSI Most popular papers in ABB immobilized on porous ceramic made from waste glass About ABB News PDF (Size: 522KB) PP. 6-13 DOI: 10.4236/abb.2013.41002 Author(s) Frequently Asked Questions Ken Sasaki, Hiroyo Morikawa, Takashi Kisibe, Kenji Takeno, Ayaka Mikami, Toshihiko Harada, Masahiro Ohta ABSTRACT Recommend to Peers This study investigated practical and simultaneous removal of cesium (Cs, initial concentration of 5 mg/L) and strontium (Sr, initial concentration of 5 mg/L) using a photosynthetic bacterium, Recommend to Library Rhodobacter sphaeroides SSI, immobilized on recovery-type porous ceramic made from glass waste. When 4 - 8 pieces /L of SSI immobilized ceramic were added to synthetic sewage wastewater Contact Us containing glucose, almost 100% of Cs and 57% - 61% removal of Sr was observed after 3 day' s aeration treatment. The high potassium (K) concentration in wastewater suppressed Cs removal, but Downloads: 160,011 did not affect Sr removal. Other substrates such as lactic, acetic, and propionic acids were useful for Cs and Sr removal. But, removal efficiencies were lower than about 50%. When the practical outdoor 497,912 removal experiment carried out using1 m³ vessel, almost 100% of Cs and 51% of Sr were removed like Visits: a laboratory experiment after 3 day's aerobic treatment. After treatment, the SSI immobilized ceramic was recovered easily from water using an electromagnet. This SSI immobilized ceramic seem Sponsors >> to remove radioactive Cs and Sr from water environments of Fukushima, Japan. **KEYWORDS** Cs and Sr Removal; Photosynthetic Bacteria; Immobilization; Ceramic Made from Waste Glass; Recovery Type-Ceramic

Cite this paper

Sasaki, K., Morikawa, H., Kisibe, T., Takeno, K., Mikami, A., Harada, T. and Ohta, M. (2013) Simultaneous removal of cesium and strontium using a photosynthetic bacterium, *Rhodobacter sphaeroides* SSI immobilized on porous ceramic made from waste glass. *Advances in Bioscience and Biotechnology*, 4, 6-13. doi: 10.4236/abb.2013.41002.

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