

Australian Journal of Basic and Applied Sciences, 3(2): 960-965, 2009

ISSN 1991-8178

© 2009, INSInet Publication

PCR-RFLP of 16s rRNA Amplification Techniques and Utilization of Different Carbon Sources Used for Identification of *Frankia* Spp. Isolated from Different Egyptian Governorates

¹Jamal S.M. Sabir, ^{1,2,4}S.E.M. Abo-Aba, ²M.M. Mohamed, and ^{1,3}A.M. Gomaa

¹Department of Biological Sciences, Faculty of Science, King Abdulaziz University, Jeddah, Saudi Arabia

²Faculty of Biotechnology, Misr University for Science and Technology (MUST). Cairo, Egypt.

³Agricultural Microbiology and ⁴Microbial Genetics Departments, National Research Centre, Cairo, Egypt.

Abstract: Symbiotic *Frankia* form specialized structures (nodules) along the root system of the host plants. The occurrence of *Frankia* inside root nodules providing the host plant with fixed nitrogen. The Molecular biology technique (PCR-RFLP) was used to detect the polymorphism of 16s rRNA in addition to the traditional physiological tests for the detection and distinction between the isolated *Frankia* strains. In this study, *Frankia* strains were isolated from ecologically different Egyptian governorates. According to their physiological properties i.e., use efficiency of different carbon sources e.g., sodium propionate, sodium pyruvate, sodium acetate, sucrose, glucose and mannitol in addition to the molecular biology technique, the *Frankia* isolates were identified.

Key words: *Frankia*, carbon sources, 16S rRNA, polymerase chain reaction PCR, Restriction Fragment Length Polymorphism RFLP.
