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Isolation and molecular identification of halophilic bacteria (Part-II) from saline soil

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The use of phenotypic, chemotaxonomic and genotypic data includes polyphasic approach which is used today in the taxonomy and systematics of the bacteria and archaea. Understanding of 16S rRNA gene sequence has helped us better understand the microbial world and has led to the detailed descriptions of novel taxa especially at the species level. Here efforts to obtain complete genome sequences of all type strains which are critical for the future of microbial systematic were obtained. Coupling the knowledge of genomics along with taxonomy, bacterial systematics and archae systematics together with computational approaches will increase the development of taxonomy in the genomic era. This study covers the isolation and characterization of halophilic bacteria with phylogenetic identification of the halophilic isolates. Halophiles are the salt-loving organisms that thrive in hypersaline environments. Most prokaryotic and eukaryotic microorganisms fall under this category as they have the ability to balance the osmotic pressure of the environment and will resist the denaturing effect of salts. The description of workflows includes outlines of approaches which describes materials and methods for isolation, morphological and cultural characterization, cultivation and phylogenetic analysis of isolates. And the experimental results showing cultural characteristics, growth requirements, phylogenetic trees and discussion are included.

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