Journal of Clinical Microbiology and Antimicrobials

Abstract Special Issue

Isolation, molecular characterization and extracellular enzymatic activity of culturable halophilic bacteria from hypersaline natural habitats

Samyah Jastaniah

King Abdulaziz University, Saudi Arabia

Abstract:

Saline habitats like Dead Sea have unusual extreme environments, due to their extreme salinity. Most saline habitats originate from the evaporation of seawater and have nearly neutral to slightly alkaline pH (such as the Red Sea pH 8.3 and Arabian Gulf, pH 8.3). Ten halophilic bacterial strains (two gram-negative) belonging to the family of Halomonadaceae and (eight gram-positive) belonging to the family of Bacillaceae were isolated from the Red Sea, Arabian Gulf and Dead Sea by subjecting the isolates to a high salinity medium followed by identification using 16S rRNA gene sequencing. Four of isolates were designated on the basis of their tolerance to high salinity; SBR1 exhibited 97% homology to Halomonas aquamarina, SBR2 showed 97% homology to Sediminibacillus sp., (Red Sea), SBA9 exhibited 94% homology to Halobacillus sp., (Arabian Gulf) and SBD17 gave 98% homology to Halobacillus dabanensis (Dead Sea). The isolates were also characterized by their physiological parameters, SBR1 showed optimum growth at 30°C, pH 8.5 and 1.5 M NaCl, SBR2 at 30°C, pH 6.0 and 1 M NaCl. Optimum conditions for SBA9 were 35°C, pH 6.5 and 1 M NaCl and for SBD17, 37°C, pH 7.0 and 1 M NaCl.

Biography:

Samyah D Jastaniah is currently an Assistant Professor in Microbiology, Department of Biological Sciences, Faculty of Science, King Abdulaziz University, Jeddah, Saudi Arabia. He got his PhD from KAU with the thesis entitled: "Biosynthesis, purification and characterization of L-asparaginase from actinomycetes, isolated from Kingdom Saudi Arabia" in 2009. He has published many papers in reviewed journals. He is the supervisor of many MSc students on complementary researches. His areas of research interests are industrial microbiology and biotechnology, taxonomy of bacteria and the role of actinomycetes in biotechnology and medicine.

Publication of speakers:

1. **S Jastaniah** et al; Synergistic effect between Azotobacter vinelandii and Streptomyces sp. isolated from saline soil on seed germination and growth of wheat plant
2. **S Jastaniah** et al; The antimicrobial activity of some plant extracts, commonly used by Saudi people, against multidrug resistant bacteria
3. **S Jastaniah** et al; Boronic acid disk diffusion for the phenotypic detection of polymerase chain reaction-confirmed, carbapenem-resistant, gram-negative bacilli isolates
4. **S Jastaniah** et al; Efficiency of an Cd-Tolerant actinomycete isolate obtained from wastewater in removal of heavy metals and enhancing plant growth of Zea mays L. plant
5. **S Jastaniah** et al; L-Asparaginase from Streptomyces sp. isolated from the rhizosphere of a palm tree, its separation, purification and antitumor activity
6. **S Jastaniah** et al; Isolation, molecular characterization and extracellular enzymatic activity of culturable halophilic bacteria from hypersaline natural habitats

5th World Congress and Expo on Applied Microbiology; November 12-13, 2018; Edinburgh, Scotland.

Citation: Samyah Jastaniah; Isolation, molecular characterization and extracellular enzymatic activity of culturable halophilic bacteria from hypersaline natural habitat; Applied Microbiology 2018; November 12-13, 2018; Edinburgh, Scotland