

5<sup>th</sup> World Congress and Expo on

# Applied Microbiology

November 12-13, 2018 | Edinburgh, Scotland

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

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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.

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