

Investigation of Biofilm Formation in Clinical Strains of *Klebsiella pneumoniae* and *Klebsiella rhinoscleromatis*

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Abstract : *Klebsiella* species which are natural colonizers of human upper respiratory and human gastrointestinal tracts are also responsible for every reoccurring nosocomial infections by means of having ability to form slimy layers known as biofilm on many surfaces. Therefore, in this study, investigation of biofilm formation in *K. pneumoniae* and *K. rhinoscleromatis* and examination of each *Klebsiella* strains' clinical information in the light of their biofilm formation results were aimed. In this respect, biofilm formation of *Klebsiella* strains was analyzed via crystal violet binding assay. According to our results, biofilm formation levels of *K. pneumoniae* and *K. rhinoscleromatis* strains were different from each other. Additionally, in comparison to *K. rhinoscleromatis* strains, *K. pneumoniae* was observed to include higher amounts of strong biofilm forming strains. Besides, it was also seen that clinical information of patients from which strong biofilm forming *Klebsiella* strains were isolated were similar to each other. Our results indicate that there should be more precautions against *K. pneumoniae* which includes higher amount of strong biofilm forming strains.

Keywords : biofilm formation, *Klebsiella pneumoniae*, *Klebsiella rhinoscleromatis*, biosystems engineering

Conference Title : ICABBBE 2014 : International Conference on Agricultural, Biotechnology, Biological and Biosystems Engineering

Conference Location : Amsterdam, Netherlands

Conference Dates : May 15-16, 2014