

## ABSTRACT

*Pseudomonas aeruginosa* is considered among the most common opportunistic pathogenic bacteria. That has the ability to develop a strong communication pathway by having well developed quorum sensing system and resistance against a wide range of antibiotics. Among the various important secretions of *P. aeruginosa* rhamnolipid is important biological detergent that is believed to be involved in the development of the biofilm and intercellular communication. It readily dissolves the lung surfactants that are then easily catalyzed by the phospholipases and in this way is involved in the acute pulmonary infection. In current study we used polymerase chain reaction for the detection of the rhIR (rhamnolipid encoding) gene of isolated strains in current study showed 97% to 99% homology with previous related data. A number of assays were performed that ensured its virulent behavior. Disc diffusion method was used to check its antibiotic resistance. Isolated strain were resistant to a number of antibiotics applied. Our finding would help in raising awareness about antibiotic resistance of *P. aeruginosa*, and sequence of rhIR gene can be used as the diagnostic marker sequence to identify the virulent rhIR gene sequence from the samples when isolated from sputum of Pneumonia patients.