

## New Record: Molecular Depiction of Rhamnolipids (*rhlA*) Gene in Locally Isolated Strains of *Pseudomonas aeruginosa*

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### Abstract

Soil samples were collected from oil-contaminated sites which were located in west Qurna, Basrah, Iraq. *Pseudomonas* species were initially isolated on mineral salts and *Pseudomonas* agar media and identified using morphological and biochemical characterizations. Then, specific primers for the *rhlA* gene belonging to *Pseudomonas aeruginosa* were designed based on the primer design conditions, and PCR was performed to amplify the 888 bp size fragment of the *rhlA* gene; additionally, the primary PCR products were purified and sent for sequencing. The band of about 888bp was determined on the gel, the amplified *rhlA* gene sequencing findings were revised, only 366 bp were ready to analyze using the (BLAST) software, and the final result was identified as a partial sequence of chromosomal *rhlA* gene related to *Pseudomonas aeruginosa* with percent identity of 99.45%. The query gene's incomplete matching with another partial *rhlA* record on NCBI was caused by variations in two base pair sequences (T in sequence 348 and C in sequence 353, respectively), and despite the small difference, this results in variation in the amino acids produced; so that a new record number, ON637169, was assigned when the sequence was deposited in GenBank. The relation among the new record of partial *rhlA* gene with the same number of the other *rhlA* gene sequences (60 records) was demonstrated by creating a phylogenetic tree.

**Keywords:** New Record, *rhlA* Gene, *Pseudomonas aeruginosa*

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