

Title : Occurrence, Molecular Characterisation and Antibigram of Water Quality Indicator Bacteria (*Pseudomonas Aeruginosa* and *Enterobacter Aerogenes*) in Water Samples from Klang River

Abstract

Background and Objectives: Klang River is a 120 km long extremely polluted river with 11 major tributaries. The pollution is due to the areas where the water passes through. The aims of this research were to identify multidrug resistant *Pseudomonas aeruginosa* and *Enterobacter aerogenes*, phenotypically identify their resistance induced traits, and to determine the molecular characterisation of these strains.

Methods: In this research, 30 water samples were collected from different sites along Klang River, their physical properties and biological oxygen demand were estimated. The gram negative multidrug resistant (MDR) strains were isolated, Hodge test, Double Disk Synergy Test and Disk Potentiation Test were done to identify the cause of their resistance induced traits, and plasmid DNA profiling was carried out.

Results: One multidrug resistant (MDR) *P. aeruginosa* strain was isolated from the 30 samples, it was a non-carbapenemase and metallo- β -lactamase (MBL) producing strain. 9 *E. aerogenes* carbapenemase and MBL producing strains were identified, 6 of them were MDR, after extracting the bacteria plasmid DNA, it was confirmed that the bacteria were within the same range as that of control bacterium (marker).

Conclusion: Multidrug resistant *P. aeruginosa* and *E. aerogenes* were present in the water samples and they had similarly sized DNA fragments to control bacterium.

Keywords: *Pseudomonas aeruginosa*; *Enterobacter aerogenes*; multidrug resistance; metallo- β - lactamase
For more details :

[https://www.researchgate.net/publication/333972511 Occurrence Molecular Characterisation and Antibigram of Water Quality Indicator Bacteria *Pseudomonas Aeruginosa* and *Enterobacter Aerogenes* in Water Samples from Klang River](https://www.researchgate.net/publication/333972511_Occurrence_Molecular_Characterisation_and_Antibiogram_of_Water_Quality_Indicator_Bacteria_Pseudomonas_Aeruginosa_and_Enterobacter_Aerogenes_in_Water_Samples_from_Klang_River)