

2<sup>nd</sup> Annual Congress on  
**MICROBIOLOGY AND MICROBIOLOGISTS**  
&  
6<sup>th</sup> International Conference on  
**MYCOLOGY AND FUNGAL INFECTIONS**

October 07-08, 2019 | Madrid, Spain

## Study on stability of soil *Pseudomonas* and *Xanthomonas* plasmids possessing antibiotic resistance genes

**Nelli Hovhannisyan<sup>1,3</sup>, B G Babayan<sup>1,2</sup>, A S Sargsyan<sup>1</sup>, S A Bagdasaryan<sup>1</sup> and A M Hovhannisyan<sup>3</sup>**

<sup>1</sup>Scientific and Production Center "Armbiotechnology" NAS RA, Armenia

<sup>2</sup>National Polytechnic University of Armenia, Armenia

<sup>3</sup>Yerevan State University, Armenia

The emergence of multidrug-resistant (MDR) *P. aeruginosa* is a critical problem in medical practice, however the key features involved in the emergence and spread of MDR *P. aeruginosa* remain unknown. Plasmids play the main role in rapid dissemination of resistance and virulence genes by mechanism of genes horizontal transfer. The spread of antibiotic resistance (ABR) has close relations with stability of plasmids possessing that features. To control the process of dissemination of MDR strains it is important to understand how resistance genes remain stable in environment.

The stability of plasmid isolated from MDR soil *Pseudomonas* and *Xanthomonas* strains has been studied. All studied strains are included in culture collection of MDC SPC "Armbiotechnology" NAS RA. The MDR and the presence of *bla*OXA-10, *aac*(6')II, *aph*(3')IV in the genome of these strains were studied earlier.

Plasmids isolated from MDR strains were used for transformation of sensitive *P. aeruginosa* 9056 strain and *E. coli* DH5a strain. Antibiotic resistant colonies have been selected and passed over series of cultivation in antibiotic-free medium in order to determine loss of plasmids (resistance). Results are presented in the Table.

Plasmids containing in *P. aeruginosa* 9056 transformants have demonstrated high level of stability. However, *E. coli* transformants have lost ABR after transfer to antibiotic medium. Thus, probably stability of *Pseudomonas* and *Xanthomonas* ABR plasmids is under the host control.

### Biography

Nelli Hovhannisyan has her expertise in biotechnology. The one of her scientific interests is combat against multidrug resistance bacteria maintenance and spread in environment. She has experience in research, teaching and administration in education institutions including Universality. As a head of Ecological safety lab, she manages the projects connected with ecology and biotechnology.

nelliog@yahoo.fr