SENSITIVITY DETERMINING OF C-DI-GMP *PSEUDOMONAS AERUGINOSA* STRAINS BY DISK DIFFUSION METHOD

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C-di-GMP controls the switch between motile and sessile lifestyles: high cellular levels of c-di-GMP promote exopolysaccharides production and surface adhesion, leading to biofilm formation; on the other hand, low c-di-GMP levels result in flagellar gene-expression and increased cellular motility (RÖmling *et al*., 2013). Antimicrobial therapy has played a crucial role in the treatment of infectious diseases in humans in XX century, as the use of antibiotics significantly reduced mortality from infection.

The aim of the work was to investigate the inhibition of *Pseudomonas* c-di GMP mutant strains growth by antibiotics.

Disc Diffusion Method for Antimicrobial Susceptibility Testing. Principle disk diffusion method (by Kirby-Bauer) is based on the phenomenon of antibiotic surface inhibition the visible growth of microorganisms on solid (agar) medium. Antibiotic disc is placed on the surface of the culture medium immediately after seeding (inoculating) a microorganism culture test. And almost simultaneously two processes start: diffusion of the antibiotic from the disc and the growth of microorganisms on the surface of the medium (Andrews, J.M., 2001).

Strains and conditions. Cyclic di-GMP mutant strains PAO1 100 Δ wspF1 (heightened level) and MPAO1 pJN2133 (low level) were used in experiment. *P. aeruginosa* PAO1 and ATCC 27853 were control strains. Samples were incubated during 24 hrs on the meat-peptone agar at 370 C.

Results. Among other antibiotics that have been tested for antimicrobial susceptibility a few antibiotics showed high activity (high growth inhibition zones). Cefepime growth inhibition zone was about 21 mm, ciprofloxacin – 35 mm and streptomycin – 32 mm on the average for each strain. So these antibiotics were selected for minimum inhibitory concentration (MIC) determining.

We are expecting that MICs finding led us to prevention of biofilm formation by *Pseudomonas* strains and inhibition of this bacteria growth.