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# Poster #46: Pyocin-Mediated Growth Suppression and Bacterial Regrowth Dynamics

*Monday, 5 October 2026 20:59 (1 minute)*

Tailocins are phage tail-like bacteriocins produced by bacteria to kill closely related strains and represent an evolutionarily repurposed mechanism of interbacterial competition. In Pseudomonas aeruginosa, these structures, termed pyocins, comprise morphologically distinct R- and F-type particles. While their bactericidal activity is well established, the dynamics of bacterial populations following exposure to different pyocins remain less well characterized.

Here, we investigated three distinct pyocins and their activity against clinical multidrug-resistant P. aeruginosa isolates. Pyocins were induced, purified and structurally characterized by transmission electron microscopy, and bactericidal activity was assessed using soft-agar overlays and bacterial growth kinetics. Distinct R1-, R5- and F-type pyocins exhibited potent antibacterial activity, with the extent and duration of bacterial growth suppression dependent on pyocin exposure. Despite strong initial growth suppression, bacterial growth was subsequently observed, prompting us to investigate how repeated and combined exposure to distinct pyocins influences subsequent growth dynamics, including persister cells and the emergence of resistance.

## Reference #1

## Reference #2

## Reference #3

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