

## BAKTERIOCYNINY PAŁECZEK Z RODZAJU *PSEUDOMONAS*

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1. Wprowadzenie. 2. Bakteriocyyny pałeczek *Pseudomonas aeruginosa*. 2.1. Piocyny R. 2.2. Piocyny F. 2.3. Związek między piocynami R i F, a bakteriofagami. 2.4. Piocyny S. 2.5. Genetyczna regulacja wytwarzania piocyn. 3. Bakteriocyyny pałeczek *Pseudomonas* sp., innych gatunków niż *P. aeruginosa*, izolowanych ze środowiska naturalnego. 4. Zastosowanie bakteriocyyny pałeczek *Pseudomonas* sp. 5. Podsumowanie

### Bacteriocins of *Pseudomonas* sp.

**Abstract:** Strains of many bacterial species produce proteinaceous antimicrobial substances called bacteriocins. They are generally effective only against the same or closely related species. The goal of this review is to describe what is known about bacteriocins of *Pseudomonas* genus.

*Pseudomonas aeruginosa* can produce three types of bacteriocins: R-, F- and S-type pyocins. R- and F-type pyocins resemble tails of bacteriophages. They are protease- and nuclease-resistant. The comparison of pyocins and bacteriophages genes let to conclude that R-type pyocin is related to P2 phage, and F-type pyocin derive from A phage. S-type pyocins are soluble, colicin-like, protease-sensitive proteins. They are constituted of two components. The large component carries the killing activity and the small component is immunity protein. Pyocin genes are located on the chromosome of *P. aeruginosa*. The production of pyocin is inducible by DNA-damaging agents e.g. ultraviolet irradiation. Many bacteriocins of *Pseudomonas* sp. isolated from the environment were purified and characterized. They have variety physical and chemical properties and spectrum of activity. It's consider to use some pyocins of *P. aeruginosa* as alternative to classical antibiotics almost against multidrug-resistance strains. Some bacteriocins of *Pseudomonas* sp. may be used as biological control agents in plant diseases.

1. Introduction. 2. The bacteriocins of *Pseudomonas aeruginosa*. 2.1. R-type pyocins. 2.2. F-type pyocins. 2.3. Relationship between R-type and F-type pyocin, and bacteriophages. 2.4. S-type pyocins. 2.5. Genetic regulation of pyocin synthesis. 3. Bacteriocins of *Pseudomonas* sp., other than *Pseudomonas aeruginosa* species, isolated from the environment. 4. Applications of bacteriocin of *Pseudomonas* sp. 5. Summary

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**Słowa kluczowe:** bakteriocyyny, piocyny, *Pseudomonas*  
**Key words:** bacteriocins, pyocins, *Pseudomonas*