

ϕ YeO3-12 phage tail fiber Gp17 as a promising high specific tool for recognition of *Yersinia enterocolitica* pathogenic serotype O:3

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Streszczenie

Yersiniosis is an infectious zoonotic disease caused by two enteropathogenic species of Gram-negative genus *Yersinia*: *Yersinia enterocolitica* and *Yersinia pseudotuberculosis*. Pigs and other wild and domestic animals are reservoirs for these bacteria. Infection is usually spread to humans by ingestion of contaminated food. Yersiniosis is considered a rare disease, but recent studies indicate that it is overlooked in the diagnostic process therefore the infections with this bacterium are not often identified. Reliable diagnosis of Yersiniosis by culturing is difficult due to the slow growth of the bacteria easily overgrown by other more rapidly growing microbes unless selective growth media is used. Phage adhesins recognizing bacteria in a specific manner can be an excellent diagnostic tool, especially in the diagnosis of pathogens difficult for culturing. In this study, it was shown that Gp17, the tail fiber protein (TFP) of phage ϕ YeO3-12, specifically recognizes only the pathogenic *Yersinia enterocolitica* serotype O:3 (YeO:3) bacteria. The ELISA test used in this work confirmed the specific interaction of this protein with YeO:3 and demonstrated a promising tool for developing the pathogen recognition method based on phage adhesins.

Słowa kluczowe

Phage, Yersiniosis, Tail fiber protein, Phage adhesins, *Yersinia enterocolitica*, Diagnostic, ELISA

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