

Antibacterial Activity of Green Synthesized Silver Nanoparticles and their Synergistic Effect with Carbapenems against Carbapenem-resistant *Klebsiella pneumoniae* (CRKP)

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Abstract

The emergence of carbapenem-resistance among Enterobacteriaceae has been increasingly reported worldwide. In Songklanagarind hospital, carbapenem-resistant *Klebsiella pneumoniae* (CRKP) are the highest prevalence among other CRE species. In this study, we aimed to investigate the incorporation of nanotechnology with the existing therapeutics to combat antimicrobial resistance. Herein, silver nanoparticles (AgNPs) was synthesized using durian peel extract as the reducing agents. The transmission electron microscope (TEM) and dynamic light scattering (DLS) measurement revealed small grains of AgNPs in spherical shapes with sizes of ~20-30 nm. The antibacterial activities of the green-synthesized AgNPs alone and in combination with carbapenems have been evaluated against *K. pneumoniae*

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Biography

Aunnada Musikaphan is studying for a master's degree at Department of Biomedical Sciences, Faculty of Medicine, Prince of Songkla University, Thailand. In 2016, she graduated from Prince of Songkla University with a bachelor's degree in Medical Technology. Currently, she is working on her thesis to investigate the synergistic antimicrobial effect of carbapenems and silver nanoparticles against carbapenems-resistant Enterobacteriaceae (CRE)