

Title (5)	:	Effects of Phomopsidione on the Viability, Virulence, and Metabolites Profile of Methicillin-Resistant Staphylococcus aureus (MRSA)
Journal	:	Current Microbiology
Document Type	:	Article
Publisher	:	Springer Nature
UniKL Author	:	Woei-Yenn Tong , Chean-Ring Leong
Link to Full Text	:	https://pubmed.ncbi.nlm.nih.gov/38461425/#:~:text=Phomopsidione%20exhibited%20minimum%20inhibitory%20concentration,quantification%20%20catalase%2C%20and%20lipase.
Link to Scopus Preview	:	https://www.scopus.com/inward/record.uri?eid=2-s2.0-85186850275&doi=10.1007%2fs00284-024-03627-7&partnerID=40&md5=4ed27d49e87b6b7c05708119e6a5a5ac
Abstract	:	<p>Methicillin-resistant Staphylococcus aureus (MRSA) infections have become one of the most threatening multidrug-resistant pathogens. Thus, an ongoing search for anti-MRSA compounds remains an urgent need to effectively treating MRSA infections. Phomopsidione, a novel antibiotic isolated from Diaporthe fraxini, has previously demonstrated potent anti-candidal activity. The present study aimed to investigate the effects of phomopsidione on the viability, virulence, and metabolites profile of MRSA. MRSA was sensitive to phomopsidione in a concentration-dependent manner. Phomopsidione exhibited minimum inhibitory concentration and minimum bactericidal concentration of 62.5 and 500.00 µg/mL against MRSA on broth microdilution assay. The compound showed significant reduction in virulence factors production including extracellular polymeric substances quantification, catalase, and lipase. An untargeted metabolomics analysis using liquid chromatography-high resolution mass spectrometry revealed a significant difference in the metabolites profile of MRSA with 13 putatively identified discriminant metabolites. The present study suggested the potential of phomopsidione as a promising anti-MRSA agent.</p>