

Endophytic bacteria isolated from higher plant in Aceh, Indonesia, and their chemical compounds activity against *Fusarium oxysporum* f. sp. *lycopersici*

<b>Publons ID</b>	(not set)
<b>Wos ID</b>	WOS:000619779700001
<b>Doi</b>	10.1186/s41938-021-00379-5
<b>Title</b>	Endophytic bacteria isolated from higher plant in Aceh, Indonesia, and their chemical compounds activity against <i>Fusarium oxysporum</i> f. sp. <i>lycopersici</i>
<b>First Author</b>	
<b>Last Author</b>	
<b>Authors</b>	Maulidia, V; Sriwati, R; Soesanto, L; Syamsuddin; Hamaguchi, T; Hasegawa, K;
<b>Publish Date</b>	FEB 12 2021
<b>Journal Name</b>	EGYPTIAN JOURNAL OF BIOLOGICAL PEST CONTROL
<b>Citation</b>	3
<b>Abstract</b>	<p>Background Endophytic bacteria are an association between bacteria and plant tissue that could play a role as a biocontrol agent. Main body Endophytic bacteria were isolated from several high root plants in Aceh, Indonesia. This study aimed to detect the chemical compounds of the potential endophytic bacteria as a biocontrol agent against <i>Fusarium oxysporum</i> f. sp. <i>lycopersici</i> (FOL). There were 198 endophytic bacterial isolates detected in roots of 9 higher plant. The hypersensitive reaction showed that 193 isolated endophytic bacteria were non-pathogenic. There were 13 isolated endophytic bacteria that worked to inhibit FOL between 50.0 and 89.2%; such endophytic bacteria were isolated from <i>Solanum lycopersicum</i> L., <i>Psidium guajava</i> L., <i>Dendrocalamus asper</i> (Schult with f.) Backer ex Heyne, <i>Pinus merkusii</i> L., <i>Theobroma cacao</i> L., and <i>Albizia chinensis</i> L. Molecular identification using 16S rRNA gene sequence confirmed that the endophytic bacteria were derived from species <i>Pseudomonas aeruginosa</i>, <i>P. mosselii</i>, <i>Arthrobacter</i> sp., <i>Bacillus cereus</i>, <i>B. thuringiensis</i>, and <i>Serratia marcescens</i>. <i>P. aeruginosa</i> that showed the highest inhibition was analyzed using GC-MS analysis. The analysis identified that antibiotics as Pyrrolo [1,2-a]pyrazine-1,4-dione, hexahydro-3-(2-methylpropyl)- was produced by <i>P. aeruginosa</i> succeeded in suppressing FOL. Conclusion The study recommends the species <i>P. aeruginosa</i>, as effective endophytic bacteria for the control of FOL pathogen.</p>
<b>Publish Type</b>	Journal
<b>Publish Year</b>	2021
<b>Page Begin</b>	(not set)
<b>Page End</b>	(not set)
<b>Issn</b>	1110-1768
<b>Eissn</b>	2536-9342
<b>Url</b>	<a href="https://www.webofscience.com/wos/woscc/full-record/WOS:000619779700001">https://www.webofscience.com/wos/woscc/full-record/WOS:000619779700001</a>
<b>Author</b>	Ir LOEKAS SOESANTO, M.S, Ph. D