ANTIBACTERIAL CAPACITY OF Streptomyces ISOLATE FROM A MANGROVE PLANT RHIZOSPHERE Avicennia marina

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Abstract	This research was conducted to obtain Streptomyces isolates from Avicennia marina rhizosphere capable of inhibiting E. coli and S. aureus growth, to investigate the capability and the characteristics of its antibacterial compound. This study completed the isolation by applying pour plate method on SCN agar medium. Antagonistic screening and selection processes were carried out by diffusion and dilution methods. Observation on the characteristic of the antibacterial compound applied was TLC method and MIC assay. This research confirmed the antibacterial compound capability by applying bioautography assay. Parameters measured consisted of inhibition zone diameter, Rf value on a bioautography plate, and the lowest concentration capable of inhibiting bacterial growth. Out of 16 isolates of Streptomyces obtained, Streptomyces 404 showed higher antagonistic activity than others. Inhibition zone diameter reached 20Ã¢Â€Â“25 mm in E. coli and S. aureus growth, respectively. TLC assay showed three spots in which two of them confirmed antibacterial activity in the bioautography assay that yielded Rf values of 0.47 for E. coli and 0.72 for S. aureus, while MIC assay showed that the lowest extract concentration inhibited bacterial growth was 20%.
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