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Continuous sub-culture for investigation of stable strain of Streptomyces sp. KB1 for bioactive secondary metabolites Production

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Abstract : The bacterial isolate from air was identified as *Streptomyces* sp. KB1 based on the analysis of the 16S rDNA sequence and collected as type strain TISTR2304 at Thailand Institute of Scientific and Technological Research (TISTR). It produced bioactive secondary metabolites that showed broad spectrum of antimicrobial activity. Stable strain of *Streptomyces* sp. KB1 was investigated for bioactive secondary metabolites production by continuous sub-culture method. Population of stable strain that showed parental levels of anti-*Staphylococcus aureus* TISTR 517 activity was continuously sub-cultured for 3-rounds and incubation time of each round as 5 days. Round I, II and Round III showed ratio of stable and non-stable strain as 1:2, 1:2 and 5:4, respectively. Moreover, stable strain of Round III, isolate no. 1-3-6-4, also showed activity higher than parental levels. These preliminary results might be led to solving the instability of bioactive secondary metabolites production of *Streptomyces* sp. in the future.
Key words : Anti-*Staphylococcus aureus* activity; Bioactive secondary metabolites; Continuous Sub-Culture; *Streptomyces* sp. KB1.

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