ABSTRACT

ANTIFUNGAL POTENCY OF *Streptomyces* spp. ISOLATED FROM COMPOST TAKEN FROM RKBS AGAINST *Trichophyton* sp.

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Trichophyton sp., one of the most prevalent dermatophytes which causes keratin tissue infection, has been widely recognized to be resistant to certain antifungal drugs. Yulistyani *et al.* (2010) successfuly isolated six isolates of *Streptomyces* sp. from RKBS which has proven to have antifungal potency against *Candida albicans*. The potency of those isolates was examined against *Trichophyton* sp.

This study was aimed to investigate the antifungal potency of *Streptomyces* spp. against *Trichophyton* sp. Screening method using hole diffusion was employed to reveal whether the isolates could have such antifungal potency. The most active isolate was further observed to figure out the antifungal production profile and the growth profile of *Streptomyces* in 24 hours period for 12 days. The fermentation was done in ISP-4 medium (pH 7,2 ± 0,2, 150 rpm, and 34,0 ± 1,0 °C). The growth of *Streptomyces* was measured by dry cell weight method.

Based on the screening result, the *Streptomyces* sp. C, Ep, and F show antifungal potency against *Trichophyton* sp. which were expressed as inhibition zone. *Streptomyces* sp. Ep has the highest antifungal potency. It is also find that the antifungal potency of *Streptomyces* sp. Ep reaches its peak of antifungal production in the fourth day of fermentation. The potency of *Streptomyces* sp. Ep against *Trichophyton* sp. was determined by three level dose method using ketoconazole as reference drug. The antifungal potency of 100 µl *Streptomyces* sp. Ep suspension is equivalent to 8.325 ppm ketokonazol.

Keyword : antifungal potency, *Streptomyces, Trichophyton, ketoconazole, compost*