

## ABSTRACT

### THE SEPARATION AND IDENTIFICATION OF ANTIBACTERIAL COMPOUND IN BUTANOL-METHANOL *Streptomyces sp.* B10 METABOLITE EXTRACT WITH TLC-DENSITOMETRY

Sesilia Novista

*Streptomyces sp.* B10 is the isolate of soil samples in agri-business area of Krian, Sidoarjo which has great potential as antibacterial. Butanol extract of fermented broth of *Streptomyces sp.* B10 indicate antibacterial activity. In the previous study, metabolite separation of butanol-methanol extract of *Streptomyces sp.* B10 metabolite by TLC method not satisfied yet. In this research, the separation method of compounds in the extract of butanol-methanol *Streptomyces sp.* B10 metabolite will be optimized with TLC using RP-TLC, HPTLC, and eluen optimization to get better result and know the proportion of the compounds contained in the extract by densitometry. Frozen supernatant of fermented *Streptomyces sp.* B10 was dried by *freeze dryer* for 24 hours to obtain a dry yellowish white powder with unique odor. Dry powder was extracted with butanol-methanol (1:1, v/v) solvent then evaporated to obtain a clear yellow concentrated extract. The concentrated extract was diluted with methanol and the antibacterial compound was separated by TLC. The spot was detected using UV light at wavelengths 254 nm and 366 nm. The best separation was shown on the 0.1 M KOH HPTLC F254 impregnated plate with methanol-water phase (6:4, v/v), this condition obtained 2 spots with Rf 0.80 and 0.70, resolution 1.33. Then the spot scanned with densitometer. Area's relative ratio of compound with bigger Rf and smaller Rf is 3:1, so the compound with Rf 0.80 have bigger proportion than the other compound.

**Keywords:** *Streptomyces sp.* B10, thin layer chromatography, densitometry, separation