ABSTRACT

Characterization of *Streptomyces* G Isolate Rumah Kompos Bratang Surabaya Soil

Cases of infection because the microorganisms are still common in Indonesia. Therefore, the use of antibiotics is still occupying the high percentage in the use of drugs. *Streptomyces* G has a relatively strong antimicrobial activity. Accordingly, investigating the potential of *Streptomyces* G as a resource for new antibiotic are needed. Contact bioautography technique has used to investigate the biological activity of *Streptomyces* G. Using this method, the active compounds were detected directly. The fermentation of *Streptomyces* G were extracted using ethyl acetate. *Staphylococcus aureus* ATCC 6538 and *Escherichia coli* ATCC 8739 were used as test bacteria in bioautography. The ethyl acetate fractions of *Streptomyces* G were deposited as spots on silica gel plates and developed in a toluene:ethanol mixture (8:2). The plates were then subjected to contact bioautography, which showed inhibition zone against *Staphylococcus aureus* ATCC 6538 and *Escherichia coli* ATCC 8739 indicating the presence of antibacterial components. On the thin layer chromatograms, the extracts were separated into one spot by viewing under ultraviolet at 254 nm (R_f value 0.54) and two spots (R_f value 0.53 and 0.64) at 365 nm. However, only one (R_f value 0.53) showed antibacterial activity. Active component was found as heat-stable. MIC value of *Streptomyces* G extracts were 128,75 ppm against *Escherichia coli* ATCC 8739 and 2801,6 ppm against *Staphylococcus aureus* ATCC 6538.

Keywords: ***Streptomyces*, antibiotic, compost, soil, bioautography**