

ABSTRACT

ANTIMICROBIAL COMPOUNDS ACTIVITIES OF D2.2 BIOCONTROL BACTERIA AGAINST BACTERIAL PATHOGENS ON SHRIMP AND FISH In Vitro

By

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D2.2 bacterial isolates was able to inhibit the growth of *Vibrio harveyi* in antagonism test by using double layer media. The purpose of this study was to determine the activities of D2.2 antimicrobial compounds againsts shrimp and fish bacteria pathogen. The growth phase of D2.2 bacteria was determine by UV Spectrophotometer in wavelength 625 nm. D2.2 bacteria compounds was produced from both, cells and supernatant (free-cell media) by extracted with ethyl acetate and saturated with ammonium sulfate. Antimicrobial activity of the compounds was tested on *Stapylococcus aureus*, *Aeromonas hydrophila* and *Vibrio alginolyticus* by using diffusion test. Further identification D2.2 bacterial was analyzed by using 16S rDNA sequence fragments to determine the kinship in genetic. Result showed that D2.2 compounds from both extracted and saturated cell and supernatant, able to inhibit bacterial pathogenic in vitro on *Stapylococcus aureus*, *Aeromonas hydrophila* and *Vibrio alginolyticus*. However compounds from extracted with ethyl acetate have more extensive activity than saturated with ammonium sulfate. The analysis result of the sequent fragmen of 16S rDNA showed that the D2.2 bacteria is identified has 97% homology with *Bacillus* sp.

Keywords: antibacterial compounds, D2.2 bacteria, in vitro, pathogenic bacteria.