ABSTRACT

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AKTIVITAS DAN STABILITAS ANTIBAKTERI EKSTRAK LOBAK (*Raphanus sativus* L.) TERHADAP BAKTERI PEMBUSUK IKAN

In Indonesia, radish tuber normally utilized to enhance taste and aroma of a food but in fact it has potential as antibacterial. This research will utilize the antibacterial potency of radish to fish which is a type of high risk food that usually rot due to bacterial contamination. Radish will be extracted with semi-polar solvent that is ethyl acetate for three days then extract will be diluted to four different concentration (10, 20, 30, and 40% (w/v)). The potential of antibacterial will be tested with agar well diffusion method to three different bacteria that commonly cause rot in fish, which are *Pseudomonas aeruginosa*, *Staphylococcus aureus*, and *Bacillus cereus*. The best concentration of extract will produce more than 10 mm diameter inhibition zone. The best concentration will be chosen for the stability test. The stability of extract will be determined with heat treatment and pH value treatment. Heat treatment will be done with three different heating time (5, 10, and 15 minutes) and two different heating temperature (80 and 100 °C) and pH value treatment will be done with four different pH value (3.0, 5.0, 6.0, and 7.0). The result showed that ethyl acetate three days with concentration 30% enough to produce diameter inhibition zones with size more than 10 mm. The stability of radish extract with different heat treatments showed that the extract unstable to heat treatments showed by the size of diameter inhibition zone become smaller below 10 mm than the extract without heat treatments. Radish extract the most stable on heating for 5 minutes 80 °C than others treatment. The stability of radish extract with pH value treatments showed that the extract unstable to pH value treatments. Radish extract the most stable on pH value 3.0 than others treatment.

Keywords: Antibacterial, heat, pH, *Raphanus sativus* L., stability