

## Abstract

The global burden caused by non-typhoidal *Salmonella* is related with the two most reported strains which are *Salmonella typhimurium* and *Salmonella enteritidis*. The emergence of multi-drug resistance of *Salmonella* especially against the first-line antibiotic has expanded to existing antibiotic, such as Fluoroquinolones, Ciprofloxacin, and Ceftriaxone. This phenomenon leads to the urgency to develop the new source of antibiotic. Brown algae have proven to have bioactive compounds with antibacterial activity. Brown algae *Sargassum* spp. from Pari Island, Jakarta, Indonesia was assessed their antibacterial activity against *Salmonella typhimurium*. There are various polar and non-polar solvents used (methanol, ethanol, distilled water, ethyl acetate, acetone, and n-hexane) with four types of sample preparation (fresh sample, freeze-dry, sun-dry, and oven-dry) by using multiple extraction methods (maceration, sonication, blended, boiled, and microwave-assisted methods). The antibacterial testing was conducted in this study by Kirby-Bauer disc diffusion test was used as antibacterial assay. According to the results, none of the crude extracts displayed a visible antimicrobial activity. Therefore, further work is required to obtain more reliable results by identifying and purifying the bioactive compounds contain in the brown algae to obtain more reliable results.

Keywords: *Salmonella typhimurium*, brown algae, *Sargassum*, antibacterial, Kirby-Bauer