

ABSTRACT

Arlyani Aufa Afafia. 24020219130061. *Antibacterial Potential of Tempe Gembus Extract Against Staphylococcus aureus and Escherichia coli. Under the guidance of Dr. Sri Pujiyanto, S.Si., M.Si. and Sekar Pelangi Manik Putri, S.Si., M.Biotech*

Food poisoning driven on by pathogenic microorganisms like *Escherichia coli* and *Staphylococcus aureus* is still a problem for public health. However, tofu residue is an agro-industrial waste product that has not yet been fully exploited despite being produced in vast amounts. One method to use it is to ferment tofu leftovers into tempe gembus, which may yield bioactive chemicals and have antimicrobial properties. The purpose of this study is to evaluate tempe gembus extract's antibacterial efficacy against *E. coli* and *S. aureus*. The extraction of tempe gembus was performed via maceration using 96% ethanol as the solvent. Subsequently, the antibacterial activity was evaluated using the disk diffusion method, based on the diameter of the zone of inhibition formed. As shown by the results, tempe gembus extract at different concentrations, which were 25%, 50%, and 100%, exhibited the highest mean value of the inhibition zone diameter at the concentration of 100%, with 1.43 mm against *E. coli* and 3.68 mm against *S. aureus*.

Keywords: antibacterial, extraction, maceration, tempe gembus, tofu pulp