

## ABSTRACT

Gita Amallia Putri. 24020121140174. "***Potential of Lactic Acid Bacteria Isolate from Cow's Milk Kefir as a Probiotic Candidate.***" Under the guidance of Siti Nur Jannah and Arifa Rizqi Nafisa.

*The health of the digestive tract has an important role in maintaining the physiological balance of the human and animal bodies. Disorders in the digestive tract can affect the absorption of nutrients and will have an impact on the overall health of the body. At this time, the use of probiotics is being widely used because it is believed to be able to maintain the health of the digestive tract. Probiotics are thought to increase the healthy microbiota in the gut. This study aims to evaluate the potential of lactic acid bacterial isolate from cow's milk kefir as a probiotic candidate. Lactic acid bacterial isolate from cow's milk kefir will be tested through several parameters including viability tests against low pH and bile salts to determine the ability of bacteria to survive in extreme conditions according to conditions in the digestive tract, adhesion tests on thin plates are carried out to measure the ability of bacteria to adhere to surfaces that resemble intestinal walls, antibacterial tests are conducted to evaluate and determine the ability of these bacteria to inhibit the growth and activity of E. Coli and S. Aureus bacteria, and molecular identification is carried out to determine the species. The results of the study are expected to be able to show that some isolates from cow's milk kefir have the potential as probiotics that can improve digestive health. This study is also expected to provide evidence that lactic acid bacteria from cow's milk kefir have the potential to be an effective probiotic in improving the balance of gut microbiota and overall digestive health.*

**Keywords:** *probiotics, lactic acid bacteria, low pH, bile salts, adhesion ability, antibacterial activity, molecular identification*