

## INTISARI

Teh kombucha memiliki kandungan kimia antara lain vitamin B1 (Tiamin), B2 (Riboflavin), B3 (Niasin), B6 (Piridoksin), B12 (Sianokobalamin), B15, dan vitamin C, asam folat, asam glukoronat, asam asetat, asam laktat, asam amino, dan enzim serta antibiotik. Kombinasi asam laktat dan asam glukoronat dalam teh kombucha sangat efektif untuk membunuh mikroorganisme seperti bakteri, virus dan jamur. Penelitian ini bertujuan untuk mengevaluasi aktivitas antibakteri dari teh kombucha terhadap bakteri gram positif berdasarkan diameter zona hambat (DZH).

Pada proses penelitian ini kombucha difermentasi selama 12 hari, dan dibuat konsentrasi 1%, 5%, 10%, dan 15%. Kontrol positif yang digunakan berupa antibiotik siprofloksasin 0,000544 %, pada bakteri gram positif. Penelitian ini menggunakan metode difusi agar, metode difusi agar digunakan untuk menentukan nilai diameter zona hambat (DZH).

Hasil penelitian diameter zona hambat teh kombucha terhadap bakteri gram positif *Staphylococcus aureus* yang ditunjukkan dengan terdapatnya zona hambat berupa area bening pada biakan agar yaitu dari konsentrasi adalah 1 % (11,66 mm), 5 % (13 mm), 10 % (16 mm) dan 15 % (21, 33 mm). Analisis statistik menggunakan *independent T test* dengan taraf kepercayaan 95% dari kadar DZH tertinggi (konsentrasi 15%) dengan kontrol positif menghasilkan nilai signifikansi 0,043. Teh kombucha 15% dan kontrol positif siprofloksasin 0.000544% mempunyai efek antibakteri terhadap *Staphylococcus aureus* setara atau tidak berbeda secara signifikan.

**Kata kunci:** Teh kombucha, DZH, *Staphylococcus aureus*

## ABSTRACT

Kombucha tea has chemical constituents like vitamin B1 (Thiamine), B2 (Riboflavin), B3 (Niacin), B6 (Pyridoxine), B12 (Cyanocobalamin), B15, and vitamin C, folic acid, glucuronic acid, acetic acid, lactic acid, amino acids, and enzymes and antibiotics. The combination of lactic acid and glucuronic acid in kombucha tea is very effective for removing microorganisms such as bacteria, viruses and fungi. This study aims to evaluate the antibacterial activity of kombucha tea against gram-positive bacteria based on inhibition zone diameter (DZH). Antibacterial activity testing in this study was carried out by agar diffusion.

In this research process kombucha was fermented for 12 days, and concentrations of 1%, 5%, 10% and 15% were made. Positive control which is ciprofloxacin 0,000544 % antibiotic material in gram positive bacteria. This study uses agar diffusion method, the diffusion method used to determine the inhibition zone diameter value (DZH).

The results of the study of kombucha tea inhibitory zone diameter against gram-positive *Staphylococcus aureus* bacteria indicated by the presence of inhibitory zones in the form of clear areas on culture so that the concentration is 1% (11.66 mm), 5% (13 mm), 10% (16 mm ) and 15% (21, 33 mm). Statistical analysis used an independent T test with a 95% confidence level of the highest DZH level (15% concentration) with a positive control so that it produced a significance of 0.043. This value indicates that there is not a significant number between groups of 15% and positive controls. The results of this study indicate that kombucha has *Staphylococcus aureus* antibacterial activity

Keywords: kombucha tea, DZH, *Staphylococcus aureus*