

ABSTRAK

Enterococcus faecalis merupakan salah satu bakteri penyebab periodontitis apikal, bakteri ini banyak ditemukan di dalam permukaan saluran akar gigi dengan persentase 80-90%. Kulit kentang (*Solanum tuberosum* L.) mengandung zat aktif antimikroba, yaitu α -solanine, α -chaconine, komponen fenol (*chlorogenic acid* dan *caffeic acid*), serta flavonoid (*quercetin*). Komponen zat aktif ini diduga dapat menurunkan hidrofobisitas bakteri *E. faecalis*. Penelitian ini bertujuan untuk mengetahui pengaruh konsentrasi ekstrak kulit kentang (*Solanum tuberosum* L.) terhadap hidrofobisitas bakteri *E. faecalis* ATCC 29212.

Hidrofobisitas bakteri *E. faecalis* diketahui melalui uji perlekatan bakteri terhadap heksadekana yang dibagi menjadi lima kelompok perlakuan, yaitu ekstrak kulit kentang 5%, 10%, 20%, kontrol negatif (akuades) dan kontrol positif (*Chlorhexidine gluconate* 0,12%). Indeks hidrofobisitas pada seluruh kelompok perlakuan diukur menggunakan spektrofotometer dengan panjang gelombang yang sama ($\lambda = 550$ nm).

Hasil uji statistik *one-way* ANOVA menunjukkan terdapat pengaruh konsentrasi ekstrak kulit kentang terhadap hidrofobisitas bakteri *E. faecalis*. *Post-Hoc* LSD menunjukkan terdapat perbedaan signifikan antara kelompok kontrol negatif dan seluruh kelompok perlakuan (ekstrak 5%, 10%, 20% dan kontrol positif) serta terdapat perbedaan signifikan antara kelompok ekstrak konsentrasi 10% dibandingkan dengan kelompok ekstrak 5% dan 20%. Pada penelitian ini dapat disimpulkan bahwa ekstrak kulit kentang konsentrasi 5%, 10%, dan 20% dapat menurunkan hidrofobisitas bakteri *E. faecalis* ATCC 29212.

Kata kunci: ekstrak kulit kentang, hidrofobisitas, bakteri *Enterococcus faecalis*

ABSTRACT

Enterococcus faecalis is one of the main factors in causing apical periodontitis and is found to be the most abundant in the root canal surface with a percentage of 80-90%. Potato (*Solanum tuberosum* L.) peel is known for its antimicrobial active components such as α -solanine, α -chaconine, phenolic compounds (*chlorogenic acid* and *caffeic acid*), and flavonoids (quercetin). These active components can also reduce the hydrophobicity of the *E. faecalis* bacteria. The aim of this study was to determine the effects of potato (*Solanum tuberosum* L.) peel extract concentrations on the hydrophobicity of *E. faecalis* ATCC 29212.

The hydrophobicity of *E. faecalis* was determined by using the bacterial adhesion test towards hexadecane and was divided into five treatment groups (5%, 10%, 20% of potato peel extract concentrations, a negative control (aquadest) and a positive control (0.12% Chlorhexidine gluconate)). Hydrophobicity index of each treatment groups were measured using a spectrophotometer at the same wavelength ($\lambda = 550$ nm).

One-way ANOVA showed an effect of potato peel extract concentrations to reduce *E. faecalis* bacteria hydrophobicity. Post-Hoc LSD test showed significant difference between negative control group compared with all treatment groups (5%, 10%, 20% extract concentrations and positive control). The 10% extract concentration had significant difference compared with 5% extract concentration and 20% extract concentration. In conclusion, potato peel 5%, 10%, and 20% extract concentrations are able to reduce the hydrophobicity of *E. faecalis* ATCC 29212.

Key words: potato peel extract, hydrophobicity, *Enterococcus faecalis* bacteria