ABSTRAK

Latar Belakang: Media pertumbuhan memiliki peran penting dalam pemeriksaan mikrobiologi klinik karena memungkinkan isolasi dan identifikasi awal bakteri. *Mac Conkey Agar* merupakan media selektif diferensial yang digunakan untuk isolasi dan identifikasi awal bakteri Gram negatif berdasarkan kemampuan fermentasi laktosa. Penggunaan indikator *neutral red* pada media ini dapat digantikan dengan *phenol red* sebagai alternatif indikator pH, namun perlu dilakukan evaluasi untuk mengetahui kemampuan media modifikasi dalam mendukung pertumbuhan dan identifikasi *Enterobacter aerogenes*.
Tujuan: Mengetahui media *Mac Conkey Agar* modifikasi dengan indikator *phenol red* dapat digunakan sebagai media alternatif pertumbuhan bakteri *Enterobacter aerogenes*.
Metode: Penelitian termasuk eksperimen murni dengan desain penelitian *Post-Test Only Control Group*. Penelitian dilakukan dengan subyek bakteri *Enterobacter aerogenes* dan menghasilkan 30 data. Analisis data secara deskriptif, analitik dan statistik dengan *Independen sample t-test.*
Hasil: Pengamatan secara makroskopis memberikan hasil sama yaitu koloni bulat, sedang, terangkat rata seluruh bagian, warna koloni media modifikasi kuning sedikit oranye dan standar pink keunguan. Hasil uji biokimia berupa gula-gula, SIM, TSIA, SC sesuai dengan dengan karakteristik biokimia bakteri *Enterobacter aerogenes*. Persentase kesesuaian karakteristik adalah 108%. Berdasarkan uji statistik, tidak ada perbedaan diameter koloni bakteri pada media modifikasi dan standar.
Kesimpulan: Mengetahui media modifikasi dapat digunakan sebagai media alternatif sebagai isolasi dan identifikasi bakteri *Enterobacter aerogenes.*

Kata Kunci: Pertumbuhan, Media Modifikasi, *Mac Conkey Agar*, *Phenol red*

ABSTRACT

Background: Growth media play an important role in clinical microbiology because they enable the isolation and preliminary identification of bacteria. MacConkey Agar is a selective and differential medium used for the isolation and preliminary identification of Gram-negative bacteria based on their ability to ferment lactose. The neutral red indicator in this medium may be replaced by phenol red as an alternative pH indicator; however, further evaluation is required to determine whether the modified medium can support the growth and identification of Enterobacter aerogenes.
Objective: To determine the potential of modified Mac Conkey Agar with phenol red indicator as an alternative medium for the growth of Enterobacter aerogenes.
Methods: This study was a true experimental research using a Post-Test Only Control Group design. The research was conducted using Enterobacter aerogenes as the study subject and produced 30 data sets. Data were analyzed descriptively, analytically, and statistically using the Independent Samples t-test.
Result: Macroscopic observation showed similar results, namely round colonies, medium-sized, raised with an even surface throughout. The colony color on the modified medium was slightly orange-yellow, while on the standard medium it appeared pinkish-purple. The biochemical test results using carbohydrate fermentation, SIM, TSIA, and SC were consistent with the biochemical characteristics of Enterobacter aerogenes. The percentage of characteristic conformity was 108%. Based on statistical analysis, there was no significant difference in bacterial colony diameter between the modified and standard media.
Conclusion: To determine the potential of the modified medium as an alternative for the isolation and identification of Enterobacter aerogenes.

Keywords: Growth, Modified Medium, Mac Conkey Agar, Phenol red