

POLTEKKES KEMENKES TANJUNGPINANG
JURUSAN TEKNOLOGI LABORATORIUM MEDIS
PROGRAM STUDI TEKNOLOGI LABORATORIUM MEDIS
PROGRAM SARJANA TERAPAN
Skripsi, Juni 2025

Khoirotun Nisa

Pengaruh variasi lama penyimpanan ekstrak daun jati (*tectona grandis*) sebagai alternatif pengganti eosin pada pewarnaan hematoxilin eosin dalam pemeriksaan histologi jaringan kanker payudara

xvi + 45 halaman + 11 tabel + 4 foto + 12 lampiran

ABSTRAK

Pewarnaan Hematoxilin Eosin (HE) merupakan metode standar dalam pemeriksaan histologi, termasuk untuk diagnosis kanker payudara. Namun, penggunaan eosin sebagai pewarna sintetis menimbulkan dampak negatif terhadap kesehatan dan lingkungan. Alternatif alami seperti ekstrak daun jati (*Tectona grandis*), yang mengandung antosianin, memiliki potensi sebagai pengganti eosin. Penelitian ini bertujuan untuk mengetahui pengaruh variasi lama penyimpanan ekstrak daun jati (7 dan 14 hari) dengan konsentrasi 25% terhadap kualitas pewarnaan sitoplasma jaringan kanker payudara. Desain penelitian menggunakan post-test only control group dengan tiga kelompok perlakuan: kontrol menggunakan eosin, ekstrak disimpan 7 hari, dan ekstrak disimpan 14 hari. Parameter penilaian meliputi warna inti sel, sitoplasma, intensitas warna, dan kontras pewarnaan. Hasil uji Kruskal-Wallis menunjukkan tidak terdapat perbedaan bermakna antar kelompok ($p > 0,05$), dengan skor rata-rata kualitas pewarnaan berturut-turut 7,7 (kontrol), 7,6 (7 hari), dan 7,4 (14 hari). Kesimpulan, ekstrak daun jati konsentrasi 25% yang disimpan hingga 14 hari layak digunakan sebagai pewarna alami pengganti eosin dalam pewarnaan HE jaringan kanker payudara.

Kata Kunci: Pewarnaan HE, daun jati (*Tectona grandis*), eosin kanker payudara, antosianin.

Daftar Bacaan : 28 (2013-2024)

**POLTEKKES KEMENKES TANJUNGKARANG
DEPARTMENT OF MEDICAL LABORATORY TECHNOLOGY
STUDY PROGRAM OF MEDICAL LABORATORY TECHNOLOGY
APPLIED BACHELOR PROGRAM**

Thesis, June 2025

Khoirotun Nisa

**The Effect of Storage Duration Variations of Teak Leaf (*Tectona grandis*)
Extract as an Alternative to Eosin in Hematoxylin-Eosin Staining for
Histological Examination of Breast Cancer Tissue**

xvi + 45 pages + 11 tables + 4 pictures + 12 attachment

ABSTRACT

Hematoxylin-Eosin (HE) staining is a standard method in histological examinations, including for the diagnosis of breast cancer. However, the use of eosin as a synthetic dye poses negative impacts on both health and the environment. Natural alternatives such as teak leaf extract (*Tectona grandis*), which contains anthocyanins, have the potential to replace eosin. This study aimed to determine the effect of varying storage durations (7 and 14 days) of teak leaf extract at a 25% concentration on the cytoplasmic staining quality of breast cancer tissue. The research design used was a post-test only control group with three treatment groups: a control group using eosin, extract stored for 7 days, and extract stored for 14 days. Assessment parameters included nuclear staining, cytoplasmic clarity, staining intensity, and contrast. The Kruskal-Wallis test results showed no significant differences between the groups ($p > 0.05$), with average staining quality scores of 7.7 (control), 7.6 (7-day storage), and 7.4 (14-day storage). In conclusion, teak leaf extract at a 25% concentration stored for up to 14 days is suitable for use as a natural dye alternative to eosin in HE staining of breast cancer tissue.

Keywords: HE staining, teak leaves (*Tectona grandis*), eosin,
Breast cancer, anthocyanin.

References: 28 (2013–2024)