

**“FORMULASI DAN UJI EFEKTIVITAS GEL EKSTRAK DAUN PULAI
(*Alstonia scholaris* L) DALAM PENYEMBUHAN LUKA BAKAR PADA
KELINCI (*Oryctolagus cuniculus*)”**

ABSTRAK

Latar Belakang: Luka bakar merupakan salah satu masalah kesehatan yang dapat menyebabkan morbiditas dan mortalitas tinggi, sehingga diperlukan penanganan tepat untuk mempercepat penyembuhan. Daun pulai (*Alstonia scholaris* L) diketahui mengandung senyawa flavonoid, tanin, dan alkaloid yang berpotensi sebagai antioksidan, sehingga diharapkan dapat melindungi sel terhadap oksidasi lipid, secara empiris pulai digunakan sebagai obat penyakit kulit, hal ini berhubungan dengan manfaat flavonoid yang dapat berfungsi sebagai antihistamin.

Tujuan Penelitian: Penelitian ini bertujuan untuk memformulasikan gel ekstrak daun pulai dan mengevaluasi efektivitasnya terhadap penyembuhan luka bakar derajat II pada kelinci (*Oryctolagus cuniculus*).

Metode Penelitian: Metode penelitian menggunakan rancangan eksperimental laboratorium. Ekstrak daun pulai diperoleh dengan metode maserasi menggunakan etanol 70% dan diformulasikan menjadi gel dengan konsentrasi 3%, 6%, dan 12% menggunakan basis HPMC 3%, propilen glikol 15%, dan natrium benzoat 0,1%. Evaluasi fisik meliputi uji organoleptik, homogenitas, pH, daya sebar, daya lekat, viskositas, dan cycling test. Uji efektivitas dilakukan pada 3 ekor kelinci yang diberi luka bakar berdiameter 2 cm, kemudian diolesi sediaan sesuai kelompok perlakuan: kontrol negatif (basis gel), kontrol positif (Bioplacenton®), dan gel ekstrak daun pulai. Pengamatan luas luka dilakukan setiap hari selama 14 hari, dan data dianalisis menggunakan One Way ANOVA.

Hasil: Hasil penelitian menunjukkan semua formula gel memenuhi persyaratan fisik gel yang baik dan stabil setelah cycling test. Persentase penyembuhan luka bakar tertinggi ditunjukkan oleh gel ekstrak daun pulai konsentrasi 6% (57%), diikuti konsentrasi 12% (43%), Bioplacenton® (36%), konsentrasi 3% (35%), dan kontrol negatif (11%).

Kata Kunci: Ekstrak daun pulai (*Alstonia scholaris* L), gel, luka bakar, kelinci, flavonoid.

“FORMULATION AND EFFICACY TESTING OF PULAI LEAF EXTRACT GEL (*Alstonia scholaris* L) IN THE HEALING OF BURN WOUNDS IN RABBITS (*Oryctolagus cuniculus*)”

ABSTRACT

Background: Burns are one of the health problems that can cause high morbidity and mortality rates, so proper treatment is needed to accelerate healing. The leaves of the pulai tree (*Alstonia scholaris* L) are known to contain flavonoids, tannins, and alkaloids, which have antioxidant properties, potentially protecting cells from lipid oxidation. Empirically, pulai has been used as a treatment for skin conditions, which is related to the benefits of flavonoids, which can function as antihistamines.

Research Objective: This study aims to formulate a pulai leaf extract gel and evaluate its effectiveness in healing second-degree burns in rabbits (*Oryctolagus cuniculus*).

Research Method: The research method used a laboratory experimental design. Pulai leaf extract was obtained using the maceration method with 70% ethanol and formulated into a gel with concentrations of 3%, 6%, and 12% using a base of 3% HPMC, 15% propylene glycol, and 0.1% sodium benzoate. Physical evaluation included organoleptic testing, homogeneity, Ph, spreadability, adhesion, viscosity, and cycling test. Efficacy testing was conducted on three rabbits with 2 cm diameter burn wounds, which were then treated with the following formulations: negative control (gel base), positive control (Bioplacenton®), and pulai leaf extract gel. Wound area measurements were taken daily over 14 days, and data were analyzed using One-Way ANOVA.

Results: The study results showed that all gel formulations met the physical requirements for good and stable gels after the cycling test. The highest burn wound healing percentage was shown by the 12% pulai leaf extract gel (57%), followed by the 6% concentration (43%), Bioplacenton® (36%), the 3% concentration (35%), and the negative control (11%).

Keywords: Pulai leaf extract (*Alstonia scholaris* L), gel, burn wound, rabbit, flavonoids.