

## INTISARI

**FEBRILIA, Y. 2013, OPTIMASI PROPORSI CAMPURAN POLISORBAT 80 DAN SORBITAN 80 PADA KRIM LENDIR BEKICOT (*Achatina fulica* Ferr) SEBAGAI ANTIBAKTERI SECARA *SIMPLEX LATTICE DESIGN*, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.**

Lendir bekicot (*Achatina fulica* Ferr) merupakan obat tradisional yang digunakan oleh masyarakat untuk penyembuh luka baru, sakit waktu menstruasi, radang selaput mata, sakit gigi, jantung dan lain-lain. Lendir bekicot mengandung peptida antimikroba yang berfungsi dalam penutupan luka. Menurut Iskandar (2012) lendir bekicot pada konsentrasi 20% mempunyai aktivitas antibakteri terhadap *Stapylococcus aureus* ACTCC 25923. Penggunaan lendir bekicot secara langsung dinilai kurang praktis, sehingga dibuat sediaan krim. Penelitian ini bertujuan mendapatkan formula optimum krim lendir bekicot menggunakan surfaktan polisorbat 80 dan sorbitan 80 berdasarkan *softwere Design Expert versi 8.6.0.1*

Krim lendir bekicot dibuat dengan tiga formula berdasarkan *Simplex Lattice Design*. Krim yang dihasilkan di uji sifat fisiknya meliputi organoleptis, viskositas, daya sebar, pergeseran viskositas dan aktivitas antibakteri dengan metode difusi. Formula optimum yang diperoleh menggunakan *softwere Design Expert 8.0.6.1* dibuat dan diuji sifat fisiknya selama 4 minggu, hasil uji sifat fisik krim yang diperoleh dianalisis secara statistik menggunakan uji-t dan untuk mengetahui perbedaan tiap formula, dapat dilakukan analisis secara statisktik uji anova satu arah dan uji t-tukey dengan taraf kepercayaan 95%.

Hasil penelitian formula optimum krim lendir bekicot diperoleh pada proporsi campuran polisorbat 80 sebesar 4,635 % dan sorbitan 80 sebesar 2,365 %. Respon fisik formula optimum dari hasil prediksi dan percobaan menunjukkan tidak ada beda signifikan. Krim formula optimum mempunyai aktivitas antibakteri dengan diameter hambat sebesar 2,7 cm.

---

Kata kunci: lendir bekicot (*Achatina fulica* Ferr), *Simplex Lattice Design*, krim, polisorbat 80, sorbitan 80.

## ABSTRACT

**FEBRILIA, Y. 2013, THE OPTIMIZATION PROPORTION OF POLISORBAT 80 AND SORBITAN 80 IN ESCARGOT (*Achatina fulica* Ferr) MUCUS CREAM AS ANTI BACTERIA ACCORDING USING *SIMPLEX LATTICE DESIGN*, THESIS, PHARMACY FACULTY, SETIA BUDI UNIVERSITY, SURAKARTA.**

The escargot (*Achatina fulica ferr.*) mucus capsule is one traditional medicine used (by the people) to cure new wound, menstruation pain, corneitis, toothache, heart disease, etc. Escargot mucus contained antimicrobial peptide functioning in covering wound. According to Iskandar (2012), escargot mucus at 20% concentration had antibacterial activity against *Staphylococcus aureus* ACTCC 25923. The use of escargot mucus directly was considered as cumbersome, so that a cream preparation is made. This research aimed to get the optimum formula of escargot mucus cream using polisorbat 80 and sorbitan 80 surfactant based on Design Expert method.

The escargot mucus cream was made of three formulas based on *Design Expert*. The cream produced was tested for its physical properties including organoleptic, viscosity, spreadability, viscosity shift, and antibacterial activity with diffusion method. The optimum formulation obtained using Design Expert 8.0.6.1 was made and tested for its physical properties for 4 weeks; the result of cream's physical property test obtained was then analyzed statistically using t-test and to find out the variance of each formula, one-way anava test statistical analysis and t-tukey test could be carried out at significance level of 95%.

The result of research on the optimum formulation of escargot mucus cream was obtained at the 4.635% polisorbat 80 and 2.365% sorbitan 80 proportion. The physical response of optimum formula from the prediction and experiment result showed no significant difference. The optimum formulation cream could be an antibacterial activity of 2.7 cm.

---

Keywords: Escargot (*Achatina fulica ferr.*) mucus, *Simplex Lattice Design*, cream, polisorbat 80, sorbitan 80