

SKRIPSI

**UJI EFEK MIKROKAPSUL BROMELIN TERHADAP LEUKOSIT DAN TNF- α
PADA MENCIT PUTIH JANTAN YANG DIINDUKSI VAKSIN H5N1**

Oleh :

SARAH FADHILA HS

NIM : 1811011029

Pembimbing 1 : Prof. Dr. apt. Yufri Aldi, M.Si
Pembimbing 2 : Dr.apt. Salman, M.Si.



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ABSTRAK

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SARAH FADHILA HS

NIM : 1811011029

(Program Studi Sarjana Farmasi)

Bromelin merupakan enzim hasil ekstrak dari tanaman nanas (*Ananas comosus. L*) yang memiliki khasiat tradisional yaitu dapat meningkatkan sistem imun. Penelitian ini bertujuan untuk melihat uji efek mikrokapsul bromelin terhadap leukosit dan kadar TNF- α pada mencit putih jantan yang diinduksi Vaksin H5N1. Hewan coba dibagi menjadi tiga kelompok, yaitu kelompok kontrol negatif (Na CMC 0,5%), kelompok II (pembanding) enzim bromelin 200 mg/kgbb, kelompok III (Uji) mikrokapsul bromelin 200 mg/kgbb. Sediaan uji diberikan peroral selama tujuh hari berturut-turut. Pada hari kedelapan, dihitung jumlah total dan persentase leukosit dan kadar TNF- α . Penentuan jumlah total dan persentase leukosit langsung dihitung dengan mengambil darah dari vena ekor. Hasil pengamatan jumlah total sel leukosit dari ketiga kelompok, yaitu kelompok kontrol negatif (yang hanya diberikan suspensi NaCMC), kelompok pembanding (Bromelin) dan kelompok Uji (Mikrokapsul bromelin) secara berturut-turut adalah 10.720 sel/mm³, 8.550 sel/mm³, 4490 sel/mm³ dan hasil pengukuran kadar TNF- α dari ketiga kelompok secara berturut-turut adalah 323,338 ng/L, 273,836 ng/L dan 266,718 ng/L. Hasil analisa statistik ANOVA satu arah dan uji lanjut Duncan, menunjukkan perbedaan signifikan ($p < 0,05$) terhadap jumlah total sel leukosit dan kadar TNF- α . Dari analisa di atas dapat disimpulkan bahwa pemberian mikrokapsul bromelin dosis 200 mg/kgbb dapat menurunkan jumlah total leukosit dan kadar TNF- α mencit putih jantan yang diinduksi Vaksin H5N1.

Kata kunci : Mikrokapsul Bromelin, TNF- α , leukosit

ABSTRACT

THE EFFECT OF BROMELAIN MICROCAPSUL FORMULATION ON LEUCOCYTES AND TNF- IN MALE WHITE MICULES INDUCED TO H5N1

BY :

SARAH FADHILA HS
Student ID Number : 1811011029
(Bachelor of Pharmacy)

Bromelain is an enzyme extracted from pineapple plant (*Ananas comosus*. L) which has traditional properties, that is improve the immune system. This study intends to see the effect of bromelain microcapsule formulation on leukocytes and the levels of TNF- α in male white mice that exposed by the H5N1 Vaccine. Experimental animals were divided into three groups, specifically a negative control group (Na CMC 0.5%), group II (comparison) 200 mg/kgbw bromelain enzyme, group III (test) 200 mg/kgbw bromelain microcapsules. The test preparation was given orally for seven consecutive days. On the eighth day, the total amount and the percentage of leukocytes and the levels of TNF- α were counted. Determination of the total amount and the percentage of leukocytes were directly calculated by taking blood from the tail vein. The observation results of the total amount of leukocytes on the three groups, specifically the negative control group (which was only given NaCMC suspension), the comparison group (bromelain) and the test group (bromelain microcapsules), respectively were 10,720 cells/mm³, 8,550 cells/mm³, 4,490 cells/mm³ and the measurement result of the levels of TNF- α on the three groups respectively were 323,338 ng/L, 273,836 ng/L and 266.718 ng/L. The statistical analysis results of the one-way ANOVA and Duncan test showed a significant difference ($p < 0.05$) on the total amount of leukocytes and the levels of TNF- α . As the above analysis it can be concluded that the providing of bromelain microcapsules at a dose of 200 mg/kgbb can reduce the total amount of leukocytes and the levels of TNF- α in male white mice that exposed by the H5N1 Vaccine.

Key words : Bromelain microcapsules, TNF-, leukocytes