

## INTISARI

**PALUPI, D.A., 2014 EFEK PENGHAMBATAN ANAFILAKSIS KUTAN AKTIF KOMBINASI EKSTRAK BIJI JINTAN HITAM (*Nigella sativa* L.) DAN HERBA SAMBILOTO (*Andrographis paniculata* N.) PADA TIKUS YANG DIINDUKSI OVALBUMIN, TESIS, UNIVERSITAS SETIA BUDI, SURAKARTA.**

Biji jintan hitam dan herba sambiloto berpotensi menghambat degranulasi sel mast. Penelitian ini bertujuan untuk mengetahui efek penghambatan anafilaksis dari ekstrak etanol 96% biji jintan hitam dan herba sambiloto pada tikus yang diinduksi ovalbumin.

Hewan uji dikelompokkan menjadi 10 kelompok (@ 4 ekor). Kelompok uji I-II diberi ekstrak tunggal yang disuspensikan dalam Na. CMC 0,5% per oral. Kelompok III-VII diberi kombinasi ekstrak biji jintan hitam dan herba sambiloto. Kontrol negatif (Kelompok VIII) diberi Na. CMC 0,5% per oral dan kontrol positif diberi Na.kromolin secara sub kutan (Kelompok IX), serta kelompok normal (X). Hewan uji disensitisasi 2 kali (1x setiap minggu) dengan ovalbumin secara subkutan pada punggung tikus. Minggu kedua disuntik *evans blue* 1,5% intravena, untuk mendukung data farmakologi dilakukan uji histopatologi jaringan kulit dengan *toluidine blue*.

Hasil uji statistik kelompok natrium kromolin, ekstrak jintan hitam dan sambiloto dosis 30 mg, 120 mg; (15:60)mg; (22,5:30)mg; (7,5:90)mg; (7,5:60)mg; (22,5:90)mg/kgBB menghasilkan perbedaan yang signifikan dengan kontrol negatif, dan menghasilkan persen penghambatan anafilaksis kutan aktif berturut-turut 14,30±6,15\*; 11,79±5,74\*; 34,81±4,85\*; 27,02±4,66\*; 21,05±5,84\*; 23,84±4,73\*; 38,52±4,71\*, Hasil ini didukung oleh pengamatan histopatologi jaringan kulit yang menunjukkan adanya korelasi yang sangat kuat antara jumlah sel mast utuh dengan persen penghambatan anafilaksis kutan aktif.

Kata kunci :biji jintan hitam, sambiloto, anafilaksis, ovalbumin, sel mast

## ABSTRACT

### **PALUPI, D.A., 2014, ACTIVE CUTANEOUS ANAPHYLAXIS INHIBITORY ACTIVITY OF THE COMBINATION EXTRACT OF BLACK CUMIN SEEDS (*Nigella sativa* Linn) AND HERBACEOUS BITTER (*Andrographis paniculata* Nees) IN OVALBUMIN INDUCED WISTAR RATS**

Black cumin seeds (*Nigella sativa* L.) and herbaceous bitter/sambiloto (*Andrographis paniculata* N.) have been potentially studied to inhibit mast cell degranulation. This study aimed was to determine the inhibitory activity of active cutaneous anaphylaxis of 96% ethanol extract of black cumin seeds (BCS) and bitter herbs (BH) combination on ovalbumin-induced rats.

Animal tests were grouped into 10 groups (@4 rats). Group I-II were treated with BSC or BH only. Group III-VII were treated orally with the combination BCS:BH. Group VIII by 0,5% of CMC-Na orally, Group IX was treated sub-cutaneously by 2% of cromolin -Na, and well as the normal group (X). The treatment of extract were given through of the research. Group of I-X were sensitized subcutaneously twice (1x per week) in the back of the rats by ovalbumin. At the second week of testing, all animals were injected intravenously by 1,5% of Evans blue. For supporting the pharmacological data, the histopathology the skin tissue by toluidine blue staining, was done. The data obtain was analyzed statistically.

The results of statistical tests cromolyn sodium group, extracts of black cumin and bitter dose of 30 mg, 120 mg; (15:60) mg; (22,5:30) mg; (7,5:90) mg; (7,5:60) mg; (22,5:90) mg / kg body weight resulted in a significant difference to the negative control, and produce the percent inhibition of active cutaneous anaphylaxis respectively  $14.30 \pm 6.15 *$ ;  $11.79 \pm 5.74 *$ ;  $34.81 \pm 4.85 *$ ;  $27.02 \pm 4.66 *$ ;  $21.05 \pm 5.84 *$ ;  $23.84 \pm 4.73 *$ ;  $38.52 \pm 4.71 *$ , these results are supported by observations of histopathological tissue showed a very strong correlation between the number of intact mast cells with active cutaneous anaphylaxis percent inhibition.

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Keywords: *Nigella sativa* L. *Andrographis paniculata* N., active cutaneous anaphylaxis, ovalbumin, mast cells.