

ABSTRAK
**EFEK ANTIINFLAMASI SUSU KECAMBAH
KACANG MERAH (*Phaseolus vulgaris* L.) KAYA FENOLIK PADA TIKUS
PUTIH JANTAN YANG DIINDUKSI KARAGENAN**
Sri Putri Wulandari, Sri Sutji Susilowati, Hery Winarsi

Latar Belakang: Inflamasi dapat diobati menggunakan obat nonsteroid, namun seringkali muncul beberapa efek samping, sehingga perlu alternatif bahan alami. Proses perkecambahan meningkatkan kadar total fenolik kacang merah yang diduga memiliki efek antiinflamasi. Tujuan penelitian ini untuk mengetahui efek antiinflamasi susu kecambah kacang merah secara *in vivo*.

Metodologi: Penelitian eksperimental ini diawali dengan pembuatan kecambah kacang merah dengan variasi lama perkecambahan 10, 20, dan 30 jam, kemudian dibuat susu kecambah kacang merah. Uji total fenolik dengan metode Folin-Ciocalteu, uji antiinflamasi dengan metode *rat hind paw edema* dan *motility test*. Susu kecambah kacang merah diberikan secara P.O. dengan dosis total fenolik 4, 6, dan 8 mg/KgBB, serta Na-diklofenak 4,5 mg/KgBB sebagai kontrol positif.

Hasil: Lama perkecambahan secara signifikan berpengaruh pada kadar total fenolik susu kecambah kacang merah ($p < 0,05$). Kadar tertinggi sebesar $0,565 \pm 0,007$ mg/ml terdapat pada 30 jam perkecambahan. Susu kecambah kacang merah dapat menurunkan volume udem secara signifikan ($p < 0,05$) dibandingkan dengan kontrol negatif menghasilkan nilai persentase daya antiinflamasi dosis 4, 6 dan 8 mg/KgBB berturut-turut 23,03%, 33,38% dan 44,74%. Berdasarkan *motility score* pada dosis 6 dan 8 mg/KgBB terdapat perbedaan yang signifikan besar dosis yang diberikan terhadap tingkah jalan tikus.

Kesimpulan: Kadar total fenolik susu kecambah kacang merah dengan perkecambahan 10, 20 dan 30 jam yaitu berturut-turut 0,423; 0,497 dan 0,565 mg/ml. Peningkatan dosis fenolik pada susu kecambah kacang merah tersebut mampu meningkatkan efek antiinflamasi.

Kata Kunci: Susu kecambah kacang merah, Antiinflamasi, Total fenolik.

ABSTRACT

**ANTIINFLAMMATORY EFFECT OF
RED KIDNEY BEAN SPROUT MILK (*Phaseolus vulgaris* L.) PHENOLIC
RICH ON MALE WHITE RATS CARAGENANS-INDUCED**

Sri Putri Wulandari, Sri Sutji Susilowati, Hery Winarsi

Background: Inflammation is usually treated by nonsteroidal drugs, but side effects also appeared, so an alternative natural ingredients are needed. The sprouting process increasing the levels of total phenolic of red kidney beans which suspected having the anti-inflammatory effect. This study aims to know the anti-inflammatory effect of milk made red kidney bean sprouts by in vivo experiment.

Methodology: This experimental study began by making red kidney bean sprouts with variations of time: 10, 20, and 30 hours, then milk was made from red kidney bean sprouts. Total phenolic was tested by the Folin-Ciocalteu method, anti-inflammatory effect was tested by the *rat hind paw edema* and *motility test*. Oral administration of red kidney bean sprouts milk and total phenolic was given using variation of dose: 4, 6 and 8 mg / KgBW, and 4,5 mg / KgBW Na-diclofenac used as positive control.

Results: The sprouting time was significantly took affect to total phenolic level of red kidney bean sprouts milk ($p < 0.05$). The highest level of total phenolic was 0.565 ± 0.007 mg / mL at 30 hours of sprouting process. Red kidney bean sprouts milk was significantly reduced the edema volume at the percentage of anti-inflammatory power value 23,03%, 33,38%, and 44,74% and total phenolic dose was 4, 6, 8 mg / KgBW ($p < 0.05$). Based on *motility score*, at dose 6 and 8 mg/KgBW there was significant differences in dose effect to the rat behavior.

Conclusion: The total phenolic content of red kidney bean sprouts milk with germination time for 10, 20 and 30 hours was 0,423; 0,497 and 0,565 mg/ml respectively. The increase of total phenolic dose red kidney bean sprouts milk, can increase anti-inflammatory effect.

Keywords: red kidney bean sprouts milk, anti-inflammatory, total phenolic.