

Cheryl Atira, 2019, **Uji Aktivitas Antioksidan *Curcumin* Terhadap Kadar MDA dan SOD Pada Mencit (*Mus Musculus*) yang Dipapar Timbal Asetat** skripsi ini di bawah bimbingan Sugiharto, S. Si., M. Si. dan Dr. Sri Puji Astuti W., M. Si. Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.

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### ABSTRAK

Tujuan penelitian ini adalah untuk mengetahui efek antioksidan *curcumin* terhadap serum mencit yang telah terpapar timbal asetat berdasarkan uji DPPH, uji kadar superoksida dismutase (SOD), dan kadar malondialdehyde (MDA). Dua puluh lima mencit strain BALB/c berumur  $\pm$  9 minggu, berat badan  $\pm$  25 gram, dibagi ke dalam lima kelompok: P1 (kontrol dengan air), P2 (timbal asetat 75 mg/kgBB), P3 (timbal asetat 150 mg/kgBB), P4 (timbal asetat 75 mg/kgBB dan *curcumin* 20 ppm) dan P5 (timbal asetat 150 mg/kgBB dan *curcumin* 20 ppm). Pemaparan timbal asetat dan *curcumin* diberikan selama 30 hari secara oral. Pada akhir perlakuan serum diuji kadar SOD dan kadar MDA. Data kemudian dianalisis secara statistik dengan nilai  $p=0,05$ . Nilai  $IC_{50}$  yang didapatkan adalah sebesar 9,27  $\mu$ g/mL. Kadar SOD tertinggi yang diperoleh adalah P1:  $3,151\pm 0,364$ , sedangkan kadar SOD terendah adalah P2:  $0,452\pm 0,238$ . Kadar MDA tertinggi yang diperoleh adalah P2:  $17,891\pm 4,615$ , sedangkan kadar MDA terendah adalah P1:  $13,708\pm 2,350$ . Nilai  $IC_{50}$  menunjukkan aktivitas antioksidan dari *curcumin* sangat kuat. serta menunjukkan bahwa *curcumin* dapat meningkatkan kadar SOD secara signifikan, serta dapat menurunkan kadar MDA.

Kata kunci : *curcumin*, antioksidan, superoksida dismutase, malondialdehyde, serum.

Cheryl Atira, 2019, **Curcumin Antioxidant Activity Effect to MDA and SOD Level on Mice (*Mus Musculus*) Induced to Lead Acetate** this thesis was under guidance by Sugiharto, S. Si., M. Si. and Dr. Sri Puji Astuti W., M. Si. Departement of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.

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### ABSTRACT

The purpose of this study is to determine the antioxidant effect of the curcumin in lead-acetate induced mice based on DPPH, superoxide dismutase level (SOD), and malondialdehyde (MDA). Twenty-five BALB/c strain mice ( $\pm$  9 week and  $\pm$  25 gram) were divided into five groups, P1 (control with water), P2 (lead acetate 75 mg/kgBW), P3 (lead acetate 150 mg/kgBW), P4 (lead acetate 75 mg/kgBW and curcumin 20 ppm) dan P5 (lead acetate 150 mg/kgBW and curcumin 20 ppm). Lead acetate exposure and administration of curcumin were given orally for 30 days. Subsequently, serum was evaluated for SOD and MDA levels. Data was analyzed statistically by  $p = 0,05$ . Curcumin  $IC_{50}$  value was 9,27  $\mu$ g/mL. Highest SOD level obtained were P1:  $3,151 \pm 0,364$ , and lowest SOD level obtained were P2:  $0,452 \pm 0,238$ . Highest MDA value obtained were P2:  $17,891 \pm 4,615$ , and lowest MDA level were P1:  $13,708 \pm 2,350$ .  $IC_{50}$  value show that antioxidant activity of curcumin was very high. The administration of curcumin could increase SOD level significantly, and it reduce MDA level in serum.

Keywords : curcumin, antioxidant, superoxide dismutase, malondialdehyde, serum.