

INTISARI

Penelitian ini bertujuan untuk mengetahui efek formula optimum gel sunscreen dengan zat aktif endapan dan filtrat perasan wortel (*Daucus carota*, L) dalam mengurangi inflamasi setelah paparan sinar UV. Penilaian efikasi formula optimum yang diuji menggunakan metode uji efikasi secara in vivo. Metode penelitian ini menggunakan hewan uji mencit dari galur BALB/C berjenis kelamin jantan yang diperoleh dari Laboratorium Farmakologi dan Farmasi Klinik Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta. Rambut di bagian punggung hewan uji dicukur hingga terlihat kulit punggung mencit. Formula gel yang akan diuji dioleskan secara merata pada bagian kulit punggung hewan uji. Setelah itu, hewan uji dipapar sinar UV dengan dosis berulang sebanyak tiga kali.

Pengukuran inflamasi yang terjadi dilakukan 24 jam setelah paparan sinar ultraviolet. Inflamasi yang terjadi diamati sebagai peningkatan ketebalan lipatan kulit (*skinfold-thickness*) punggung hewan uji. *Skinfold-thickness* hewan uji yang dioles formula gel dibandingkan dengan kelompok kontrol. Pengujian perbedaan peningkatan *skinfold-thickness* antara kelompok perlakuan dan kelompok kontrol dilakukan dengan analisis statistik ANOVA.

Hasil pengujian menunjukkan perbedaan bermakna rata-rata peningkatan *skinfold-thickness* antara kelompok kontrol negatif dan kelompok yang diberi perlakuan menggunakan formula gel endapan perasan wortel. Dari penelitian ini, dapat diketahui bahwa formula gel optimum dengan endapan perasan wortel memberikan perlindungan untuk mengurangi inflamasi lebih baik dibandingkan formula gel optimum dengan bahan aktif filtrat perasan wortel.

Kata kunci : Uji antiinflamasi, gel, *Daucus carota* L, beta karoten

ABSTRACT

This research was conducted in order to know the effect of sunscreen optimum gel with filtrate and sediment of squeezed carrot active substance (*Daucus carota*,L) in reducing the inflammation after ultraviolet exposure. The effect measurement of tested optium formula uses *in vivo* test method. This research's method uses strain experimented male-mice of BALB/C which comes from pharmachology and clinical pharmacy laboratory of Gadjah Mada University, Yogyakarta. The lower part hairs of the experimented mice were shaved until the skin of the back appeared. The gel formula that was going to be tested was smeared entirely on it. Then, the experimented mice were rayed in the UV with frequent dose for three times.

The measurement of the inflammatory effect was done in 24 hours after UV radiation. The inflammation which happened was observed as the skin fold-thickness increase of the mid-dorsal. The experimented mice's skinfold-thickness which smeared by the gel formula was compared with the control group, a number of mice which were not being tested as means of comparison to the tested one. The research of the skin fold-thickness difference augmentation between the experimented group and the control group was conducted by using ANOVA statistic analysis.

There was a significant difference of skinfold-thickness's mean between the experimented mice group which smeared by the gel formula with sediment of squeezed carrot compared with the control group. From the research, there could be known whether optimum gel formula with sediment of squeezed carrot had better protection effect in reducing inflammation after UV irradiation than optimum gel formula with filtrate of squeezed carrot.

Key words : *anti-inflammation test, gel, Daucus carota L, beta carotene*