

## **Abstrak**

Radikal bebas merupakan dasar patofisiologi banyak penyakit. Kandungan Kurma Ajwa (*Phoenix dactylifera* L.) yaitu flavonoid berpotensi sebagai antioksidan alami melawan radikal bebas. Tujuan penelitian ini untuk mengetahui efek fotoproteksi topikal ekstrak daging Kurma Ajwa terhadap jumlah *Sunburn cell* epidermis kulit mencit yang dipapar sinar UVB.

65 ekor mencit betina BALB/c yang dibagi menjadi 5 kelompok acak, Kelompok 1 (Basis Lotion), kelompok 2 (dosis 2 %), Kelompok 3 (dosis 4 %), kelompok 4 (dosis 8 %), dan kelompok 5 (normal). Punggung mencit kelompok 1-4 dioles topikal ekstrak satu kali sehari selama seminggu kemudian dipapar sinar UVB dosis tunggal 3 MED (24 menit). Kelompok 1-5 diambil jaringan kulit punggung pada jam ke-24, 48, dan 72 setelah penyinaran untuk dibuat preparat dengan pengecatan Hematoksin Eosin. *Sunburn cell* epidermis dihitung di sepuluh lapang pandang per preparatnya. Normalitas dan homogenitas varian data rata-rata jumlah *Sunburn cell* diuji statistik kemudian diuji *Oneway Anova* dan *Post Hoc LSD*.

Puncak terbentuknya *Sunburn cell* terjadi 24 jam setelah penyinaran. Rata-rata jumlah *Sunburn cell* jam ke-24 pada Kelompok 1 (9,68), Kelompok 2 (5,84), Kelompok 3 (4,70), Kelompok 4 (4,96), Kelompok 5 (4,04). Uji statistik menunjukkan data normal dan homogen. Hasil uji *Post Hoc LSD* menunjukkan perbedaan bermakna ( $p < 0,05$ ) antar kelompok satu dengan lainnya.

Lotion ekstrak daging Kurma Ajwa (*Phoenix dactylifera* L.) dapat menurunkan jumlah *Sunburn cell* epidermis mencit akibat sinar UVB.

**Kata kunci:** *Phoenix dactylifera* L., Kurma Ajwa, Apoptosis, *Sunburn cell*, UVB, topikal.

## **ABSTRACT**

**Background:** Free radicals are the pathophysiological basis for many diseases. The content of Ajwa Date (*Phoenix dactylifera* L.) is flavonoid as a natural antioxidant. The purpose of this study was to determine the photoprotective effect of Ajwa's pulp extract on the number of Sunburn cell of mice skin exposed to UVB rays.

**Method:** 65 BALB/c female mice were randomly divided into 5 groups, Group 1 (negative control), Group 2 (2% dose), Group 3 (4% dose), Group 4 (8% dose), and Group 5 (normal tissue). Backs of mice group 1-4 was topically treated with extract once a day for a week then exposed to single UVB dose of 3 MED. The tissue samples from mice's back skin were taken at 24, 48, and 72 hours after irradiation for a histopathology preparations. Sunburn cell was observed under light microscope at 10 fields. The data were analyze with Saphiro Wilk and Levene's test. Mean of Sunburn cell tested statisticy use Oneway Anova and Post HocLSD.

**Results:** The peak time formation of Sunburn cell occurs at 24 hours after irradiation. Sunburn cells count for the 5 groups were 9.68; 5.84; 4.70; 4.96; 4.04 respectively. Statistical tests showed normal and homogeneous data. Result of Post Hoc LSD test showed a significant difference ( $p < 0,05$ ) among the groups.

**Conclusion:** The sunburn cell count was significantly decrease in mice's skin treated with Ajwa date pulp extract exposed UVB as compare with control group.

**Keywords:** *Phoenix dactylifera* L., Ajwa Dates, Apoptosis, Sunburn cell, UVB, topical.