

## Wound healing properties of *Eucheuma cottonii* extracts in Sprague-Dawley rats.

### ABSTRACT

Wounds are unavoidable events of life and arise due to agents that induce stress or injury. Wound has been a menace the world over and healing is a survival mechanism and represents an adaptation to the maintenance of normal anatomical structure and function. The objective of this study was to evaluate the potential wound healing properties of ethanolic and aqueous extracts of *Eucheuma cottonii*. A two centimeter diameter of skin excision wound was made on normal rats. Treatment with honey (100 mg/kg body weight) was used as positive control and untreated rats as the negative control groups. Inflammation and proliferation phases of wound healing including wound contraction, re-epithelization and granulation tissue development were monitored. This study showed that both seaweed extracts increased the rate of wound contraction compared with the positive and negative control. Ethanolic extract of *E. cottonii* was more effective than the aqueous extract by 20% ( $P < 0.05$ ). Histopathological findings showed the ethanolic extracts enhanced epithelization and tissue granulation significantly compared with both control groups. *E. cottonii* possesses several antioxidant compounds, which may be responsible for the accelerated wound healing. The present study demonstrated that these seaweed extracts accelerated healing better if not comparable with honey.

**Keyword:** Seaweed; Wound healing; Histopathology.