

ABSTRACT

The rind of dogfruit contains active compounds such as saponins, tannins, flavonoid, and alkaloids which can act as an antibacterial and regenerating wounds. One of the cells which is involved in regeneration are macrophage cells. This research aimed to determine the effectiveness of gel from dogfruit's rind ethanolic extract to increased numbers of macrophage cells in the wound healing white male rats.

The subjects of this research are 45 male rats as a subjects. Divided into five treatment groups, namely group I (povidone iodine), group II (without treatment), group III (gel concentration of 1%), group IV (gel concentration of 5%), and group V (gel concentration of 10%). Three rats in each group were sacrificed on day one, third, and seventh then the tissue is stained with hematoxylin and eosin (HE). The data is analyzed using normality test by Shapiro Wilk test and continued with Two Way ANOVA and Tukey HSD (Honestly Significant Difference).

On the normality test, obtained $P > 0.05$ indicates normal distribution of data. On Two Way Anova test, obtained significance value of $P = 0.000$ ($P < 0.05$), then there is a significant difference in the quantity of macrophage cells each treatment group. Test Tukey HSD shows the concentration of the most effective in increasing the numbers of macrophage cells at a concentration of 5%. Increased numbers of macrophage cells in each group were highest on day 3 to 7.

Applying gel of ethanolic extract from rind dogfruit concentration of 5% is effective against wound healing of male rats regarding to the quantity of macrophages cells ($p < 0.05$).

Keywords: *Dogfruit's rind extracts gel, macrophages, wound healing, regeneration*