THE EFFECT OF BINAHONG LEAF (*Anredera cordifolia* (Ten.) STEENIS) JUICE TO THE DENSITY OF COLLAGEN ON INCISION WOUND IN RAT (*Rattus norvegicus*)

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ABSTRACT

The aim of this study is to determine the effect of binahong leaf juice (BLJ) to collagen density on incision wound of rat. Study using 20 rats were randomly divided into five groups: P0 (control -), P1 (control + : 10% povidone iodine), P2 (BLJ 24%), P3 (BLJ 48%), and P4 (BLJ 96%). Treatment had been given directly on the incision area topically for fourteen days. The mean of collagen density in the group P0, P1, P2, P3, and P4 are respectively 2.50; 2.75; 3.00; 3.25; and 4.00. The result of nonparametric test *Kruskal-Wallis* is 0.01 show that significantly different, and continues to *Mann-Whitney U* test. The collagen density of incision wound on group P0, P1, P2, and P3 are not significantly different (p > 0.05). Highest collagen density incision wound occurred in P4 significantly different with other group (p < 0.05). Research shows that increasing mean of collagen density is on BLJ treatment, more higher BLJ concentration more higher the compounds of flavonoid, saponin, terpenoid, alkaloid, tannin that contains antibiotic, antiseptic, antioxidant. Saponin stimulated the formation of growth factors that cause the multiplication and growth of vascular endothelial cells, vascular smooth muscle cells and fibroblast cell growth causing the eventual repair damaged blood vessel walls, so the nutrition and oxygenation that affect the collagen density in the wound can be fulfilled. Giving SDB 96% increase collagen density into score 4.

**Key words:** binahong leaf, wound healing, fibroblast, collagen