ABSTRACT

ANTIOSTEOPOROTIS ACTIVITY of ETHYL ACETATE FRACTION of *Marsilea crenata* Presl. LEAF in INCREASING BONE DENSITY of FEMALE MICE'S TRABECULAR VERTEBRAE

Frischa Ayu Widiasari

The aim of this research was to study the antiosteoporosis activity of ethyl acetate fraction of *M. crenata* leaves in osteoporosis mice models. Research subject was females mice strain BaIb-C. Osteoporosis was induced using dexamethazone for 28 days. All mice were devided into five groups: negative control group (suspension CMC-Na), positive control group (Suspension Alendronat), and three groups consisting of ethyl acetate fraction with three different dose i.e. 0.23 mg/20 g BW dose (U1), 0.46 mg/20 g BW dose (U2), and 0.92 mg/20 g BW dose (U3). The fractions were given orally for 28 days too, and all mice were sacrified at the end of the treatment.

The result showed significant differences between controled and treated groups. Average trabecular bone thickness (µm) of each group were: 25.68 ± 3.61 (negative control group), 33.85 ± 2.85 (positive control group), 26.15 ± 1.99 (fraction of etil astat at dose 0.23 mg/20 g BW), 33.22 ± 3.39 (fraction of etil astat at dose 0.46 mg/20 g BW), and 43.16 ± 7.30 (fraction of etil astat at dose 0.92 mg/20 g BW). Based on the result bone density of U2 and U3 groups increased significantly compared with negative control group. The result were analyzed with *one-way* ANOVA and showed that U2 and U3 groups were significantly different (p)=0.000 or (p)<0.05. This indicates that fraction of ethyl acetate of *M. crenata* leaves had antiosteoporosis activity to increased the trabecular bone density of vertebra of female mice.

Keywords: *Marsilea crenata* Presl., antiosteoporosis, phytoestrogen