The purpose of this research was to determine the effect of Cikal Tulang (Cissus quadrangularis) extract in preventing osteoporosis on ovariectomized rats (Rattus norvegicus) regarding to its ability in increasing calcium deposit within the bone and this determination is done by measuring the calcium concentration inside the bone. Twenty subjects consisted of three months-old female wistar rats were divided into five groups and each of the group received different treatments. This research used Completely Randomized Design method and each treatment consisted of four replications. Treatments given were, P0 was non-ovariectomized rats without drug administration; P1 was ovariectomized rats + 0,5% CMC Na; P2 was ovariectomized rats + Calcium Carbonate (CaCO₃) 450 mg/rats/day + 0,5% CMC Na; P3 was ovariectomized rats + Cissus quadrangularis extract 500 mg/kg weight + 0,5% CMC Na; P4 was ovariectomized rats + Cissus quadrangularis extract 750 mg/kg weight + 0,5% CMC Na. Treatments were given 1,5 ml/day over 42 days post-ovariectomy, analysis of bone calcium concentration in os mandibula has been done by performing analysis of ash concentration beforehand. The data were statistically analyzed by using Analysis of Variance method. Duncan Multiple Range Test will be used. The result of the experiment showed that there was no significant difference in bone calcium concentration (P>0.05). It was concluded that Cissus quadrangularis extract was able to maintain bone calcium concentration within the normal range, keeping the composition of the bone and thus preventing osteoporosis to occur.

Key words: Cissus quadrangularis, Osteoporosis, bone calcium