

Anti-angiogenic properties of *Cymbopogon citratus* and *Moringa oleifera* using the
Chorioallantoic Membrane Vascular Assay

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Abstract

In the Philippines, the use of complementary and alternative medicine, such as plants, is beginning to become very common due to the rapidly increasing incidence of cancer in the country. Due to this increase, there have been claims that the most common plants have anti-cancer properties. These include lemongrass (*Cymbopogon citratus*) and malunggay (*Moringa oleifera*). However, there had been scanty literature to prove these claims. The aim of this study is to screen the crude methanol extracts of *C. citratus* and *M. oleifera* leaves for anti-angiogenic property using Chorioallantoic Membrane Vascular Assay (CAMVA). Non-lethal concentrations of the plant extracts were embedded into filter paper disks and inserted into the chorioallantoic membrane of the ten-day-old duck embryos. A negative control group of duck eggs were left unopened. After 48 hours of incubation, the number of blood vessels in the chorioallantoic membrane of the duck embryos was manually counted using a dissected microscope. Results showed that extracts of *M. oleifera* and *C. citratus* were able to inhibit blood vessel growth in the chorioallantoic membrane of duck embryo. Between the two plants, crude methanol extracts of *M. oleifera* (12.10 ± 0.836) showed a lesser number of developed blood vessels than the crude methanol extracts of *C. citratus* (14.50 ± 0.637). The anti-angiogenic properties of these plant extracts could be attributed to the presence of phytochemicals such as citral, quercetin, kaempferol, and niazimicin which have been proven to have anti-cancer properties. In conclusion, *M. oleifera* and *C. citratus* have anti-angiogenic properties hence they are potential sources of natural treatment for tumor.