HUMAN BREAST CARCINOMA CELLS ARE VERNONIA AMYGDALINA SENSITIVE IN-VITRO

Lecia Gresham$^{1,2}$ and Ernest B. Izevbigie$^{1,2,3}$

$^1$The Laboratory of Cellular Signaling, Phytoceuticals, Cancer Prevention and Therapies; $^2$NIH-Center for Environmental Health, College of Science, Engineering and Technology; $^3$Department of Biology, Jackson State University, Jackson, MS 39217, USA

Abstract: Cancer of the breast is the most commonly diagnosed non-skin cancer and second leading cause of cancer-related deaths in women in the United States. Breast cancer represents 29% of new cases of all cancers. An estimated 226,870 women will be diagnosed with invasive breast cancer and 39,510 women will die from the disease this year in the United States. There is an urgent need for the discovery and development of agent(s) efficacious against breast cancer to decrease breast cancer mortality and morbidity. National surveys on the use of Complementary and Alternative Medicine (CAM) among patients show more than eighty percent of cancer patients, representing a spectrum of malignancies and disease stages acknowledged the use of CAM. The growing popularity of CAM usage has led to the discovery of aqueous leaf extracts of *Vernonia amygdalina* (VA), a Nigerian edible plant as a very strong candidate. Previous studies have shown VA to inhibit the proliferation of estrogen receptor positive (ER+) and estrogen receptor negative (ER-) human breast carcinoma cells in vitro. VA may be used alone or in combination (adjuvant) with known breast cancer drugs. Therefore, the objectives of this study were to further assess the growth inhibitory activity as well as profile the effects on the biological functions of VA on carcinoma cells of the breast. The data presented will further suggest that breast cancer patients of all kinds may benefit from VA as a CAM agent is relatively high in the near future.

Key words: *Vernonia amygdalina*, estrogen receptor, ductal carcinoma