**BERLINIA SP. EXTRACTS EVOKE ANTI-MITOGENIC ACTIONS ON HUMAN BREAST TUMORAL CELLS**

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**Abstract:** The National Cancer Institute (NCI) and the Northern American Association of Central Cancer Registries (NAACCR) estimate that approximately 212,920 new cases of invasive breast cancer, and 40,970 deaths are expected to occur among U.S. women in 2007. Breast cancer is the most commonly diagnosed cancer in women, representing approximately 30% of all types of cancer in women. Breast cancer death rate in African American women (AAW) is 37% higher than in white women (WW), despite lower incidence rate for AAW. Some reports show that this health disparity gap has widened in recent years. Therefore, novel therapies (agents) are needed to close or eliminate the health disparities. Plants are considered excellent sources for the discovery of new chemopreventive and/or chemotherapeutic agents according to reports by National Center for Complementary and Alternative Medicine (NCCAM). The objective of this study was to evaluate the cell growth-inhibitory effects of yet another plant material, aqueous bark extracts of *berlinia* sp (BS). We hypothesized that aqueous fractions of BS will inhibit MCF-7 cell growth by modulating the expression of cyclin D, and cyclin-dependent kinases CDKs activities.

**METHODS:** Activity was defined as ability to inhibit cellular growth, measured by \[^3H\]thymidine incorporation and confirmed by cell growth using a hemacytometer.

**RESULTS:** Treatment of MCF-7 cells with increasing concentrations (10, 100, and 1000 μg/ml) of aqueous BS bark extracts retarded cell growth by 0, 95, and 99% (P <0.0001) respectively.

**CONCLUSION:** These results suggest that aqueous fractions of the bark extracts of BS contain active, anticancer agents that may be useful as treatment against cancer, breast cancer in particular. Assessment of BS effects on cyclin D expression, and CKDs activities are underway in our laboratory.

**Keyword:** human breast cancer cells, DNA synthesis, *Berlinia* sp, bark extracts

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