

**SCIENTIFIC VALIDATION FOR TRIBAL MEDICINE RELATING TO
ANTIOXIDANT AND ANTICANCER ACTIVITY AGAINST
MAMMARIAN CANCER (MCF-7) CELLS**



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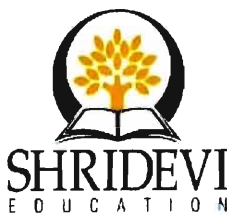
BIOTECHNOLOGY & ENGINEERING

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ABSTRACT

Traditional medicines also known as indigenous or folk medicine. The present work aimed to evaluate Tribal medicine scientifically towards justification of Traditional practice. The study was initiated with the procurement of the traditional/tribal medicine formulation after a successful interaction with the Traditional healers. This medicine formulation is being practiced against 'Breast cancer' (*Mammaraian Cancer*) during different stages of infection by traditional healers of Biligirirangana Hills (B.R Hills) followed by some surrounding villages of Yelandur Taluk, Chamarajanagara district. 'Medicine Formulation' is a mixture of the tribal/traditional medicinal components comprising of various parts of ethno-medicinal plants that are used to treat various diseases and disorders. The formulation includes *Dioscorea hispida* (Dioscoreaceae), *Pavonia zeylanica* (Malvaceae), *Curcuma aungustifolia* (Zingiberaceae) and *Sigesbekia orientalis* (Asteraceae). The formulation was validated quantitatively by an Ayurvedic Doctor. The Traditional Medicine formulation was subjected for scientific evaluation through bio-physical evaluation like, Physico-chemical analysis, Phyto-chemical analysis, Antimicrobial analysis, Antioxidant analysis etc. Preliminary qualitative phyto-chemical analysis of Ethanolic extracts showed positive tests for phenols, flavonoids, terpenoids, tannins and alkaloids. Aqueous extracts of formulation showed positive result for Alkaloids and terpenoids. The most pronounced activity with significant zone of inhibition (0.8cm) was exhibited by ethanolic extract on *Staphylococcus aureus* and aqueous extract on *Pseudomonas aeruginosa*, *Escherichia coli*. The measure of antioxidant activity of the ethanolic extract determined by the decolorization of the ABTS. Ethanolic extracts of formulation on ABTS free radical scavenging activities was assayed at various concentrations (2.5, 5, 10, 25, 50 and 100 µg/ml). Significant ABTS free radical scavenging activity of 7 ± 0.74 was evident in the extract. TLC showed that, chloroform extract moved to the maximum distance of 15cm followed by ethyl acetate extract with 14.7 cm retention factor. Ethanolic extract moved the least distance with 6.5cm retention factor and aqueous extract did not show any movement on the stationary phase. The results analysis for MTT assay showed that, the cell viability decreases with increase in concentration of the drug. The inhibition concentration value (IC₅₀) for the MTT assay at 24hrs was found to be 5.1µg/ml and for 48hrs at 5.4µg/ml. Further, Anti-proliferative activity was evaluated against MCF-7 Cell lines (*Mammarian cancer cells*) wherein, it was found that, arresting the proliferation and growth of these cancerous cells even in very low concentration, this may be due to presence of bio-active compound in the Tribal medicine formulation. Thus, the Traditional

medicine formulation found to be most effective against Mammarian Cancer Cells and justifies the practice by the traditional healers. Further, the formulation needs to be evaluated (Clinical trials) through complete purification process in order to recommend the same for use.