Aim & Objectives
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Many treatment modalities are available today to manage cancer but they are always associated with side effects. Radiation therapy, and Chemotherapy are found to be effective but are insufficient in therapeutic index, they lack specificity, and develop drug-resistance. Cell subpopulations often hamper the efficacy of drug therapies. Because of these limitations, there is a continuous need for the development of novel anticancer drug strategies and therapeutic modalities. Due to the increased incidences of the adverse drug reactions and economic burden existing in modern system of medicine use of Phytomedicines or Herbal medicine is growing exponentially.

Traditional plants might provide useful sources in developing new anticancer drugs and could be a good alternate to existing lines of cancer therapies. Though many plants were used in traditional system to treat malignancy only few of them are scientifically validated. Plant or Plant based formulation or Plant metabolites can be recommended in cancer therapy only after establishing scientific evidences. Though therapeutic benefits can be traced to specific plant molecule, many herbs contain many active principles which together synergises to give the desired anticancer effect.

Need of the hour is to develop an anticancer drug that is cost effective and human compatible. Based on the literature review, present investigation aims at to identify and develop a novel anticancer herbal drug from two plant sources belonging to the family Lamiaceae as members of Lamiaceae were in use for tumor and cancer since Vedic period.

BIOCHEMICAL EVALUATION OF TWO TRADITIONAL DRUG SOURCES AGAINST EHRlich ASCITES CARCINOMA

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Hyptis suaveolens Poit. and Leonotis nepetaefolia R. Br. belonging to the family Lamiaceae were selected and the ethanolic extract of these plants were screened for their anticancer potentials against Ehrlich Ascites Carcinoma cell lines. Studies were also focused towards botanical and chemical standardization studies as well as towards biochemical studies so as to understand the probable mechanism of action of these herbal drugs selected for the present investigation.

The main objectives of the present work are:

- To determine the Botanical and Chemical Standards for the selected plant drugs.
- To conduct HPTLC & GC-MS studies of the extracts selected for the study.
- To conduct In-Vitro Cytotoxic studies against Ehrlich Ascites Carcinoma cell lines.
- To conduct In-Vivo anticancer studies against Ehrlich Ascites Carcinoma cell lines.
- To evaluate biochemical parameters and to determine the anticancer efficacy of the selected drugs.
- To arrive at the possible mechanism of action.
- To conduct safety and efficacy studies of the selected drugs.
- To carry out docking studies on the identified compound in GC-MS so as to provide chemical evidences for the drug action.