Introduction
Cancers are pathobiological entities which may arise in any multicellular organism. They are present in diploblastic animals like coelenterates and in triploblastic organisms of nonchordate and chordate organization. Neoplastic development can occur in any tissue or organ of the body. More than a hundred kinds of tumors have been identified in humans.

Cancer as a disease has been known to classical Indian medicine (Ayurveda) as a distinct category of tumors that after a certain stage of development were incurable. Avicenna (9th –10th AD) mentions cancer as a distinct disease that during very early stages can to some extent be treated by destruction of the afflicted tissue. It is significant that both Ayurveda and Greco-Arab classics consider cancer virtually incurable and in such cases recommend pain-killing and improvement of body weight and tonacity as the way out.

The process of carcinogenesis is multifactorial, mutiphasic and multigenic in nature. A variety of physical agents (ionizing radiations and UV radiation of certain wavelengths), chemical agents (certain polycyclic aromatic hydrocarbons, aflatoxins, N-nitroso compounds, vinyl chloride and asbestos) and biological agents (oncogenic DNA and RNA viruses) are known to induce cancers. Operationally, the process of carcinogenesis is divided into three major stages: initiation, promotion and progression. These changes occur in sequence as a result of genetic and/or epigenetic events that take place in target cells.

The International Agency for Cancer Research (Lyon) has estimated over 10 million new cases of cancer in 1996. The disease accounts for 20% of all deaths in developed regions and 10% of all deaths in developing regions. The cancer load for India by 2001 AD is estimated to be 8,06,000. In spite of efforts to improve treatment and find cures the overall mortality rates worldwide for the disease have not declined in the past 25 years. Primary prevention (avoidance to cancer causing substances in the environment) as well as secondary prevention (early detection and treatment of tumors) have been employed, but the results are not satisfactory. Chemoprevention has emerged as an important intervention strategy aimed at cancer prevention.
Chemoprevention is the use of synthetic chemical compounds or natural agents that either prevent the formation of carcinogens from precursor compounds, or inhibit the development of invasive cancer by blocking the DNA damage that initiates carcinogenesis, or arrests/reverses the progression of premalignant cells in which such damage has already occurred. The development of chemoprevention intervention strategies has a multidisciplinary scientific base. Basic research in carcinogenesis has identified many enzymes, genetic lesions and other cellular constituents associated with initiation and progression of precancerous to invasive disease. Therefore, one approach towards identifying and characterizing potential chemopreventive agents is the systematic evaluation of classes of agents acting at these targets. The second approach is to look for agents that are inhibitors of mutagenesis and proliferation, and inducers of apoptosis and differentiation. For prevention of most forms of cancers the empirical approach towards identifying chemopreventive agents is more successful.

Cancer of the cervix is the seventh most common cancer in the world. In 1996, an estimated 5,24,000 new cases were diagnosed worldwide accounting for 5% of all new cases. It is the second most common cancer in women worldwide. In India, it is the most common cancer in women. By 2001 AD there will be an estimated number of 1,00,000 cases of cancer of the cervix uteri in the country, accounting for 1/4th of all cancers in women. The high incidence rates for the disease makes it imperative to explore preventive strategies for the disease.

The National Cancer Institute (USA), has identified 9-cis-retinoic acid for phase I cancer chemopreventive trials, and all-trans-retinoic acid, 4-HPR, β-carotene, DFMO and folic acid for phase II/III clinical trials for cancer of the uterine cervix. Several studies done on animal models have reported the chemoprevention of chemically induced cervical carcinogenesis by selenium, tamoxifen, DHEA, retinoic acid, BHA, indomethacin as well as constituents of dietary intake e.g. garlic and mace.

Cervix being an estrogen responsive tissue, the potential of phytoestrogens (estrogens derived from plants) to modulate the process of carcinogenesis is also an
This thesis is primarily aimed at studying certain plant materials and active constituents for their chemomodulatory potential in chemically induced cervical carcinogenesis in Swiss albino mice. Modulation of phase I and II xenobiotic detoxifying enzymes and antioxidant defense system affects the ultimate fate of the reactive electrophilic form of a carcinogen, therefore the modulation of hepatic phase I and II xenobiotic detoxifying enzymes as well as antioxidant defense system is also studied.