ABSTRACT
Inspite of tremendous advancement made in the field of medical sciences, the cure of cancer remains an uphill task. Moreover the rising incidence of its occurrence has worsened situation in more awful manner. One in every twelve men and one in every twelve women up to 64 years of age are expected to be inflicted by one or other form of cancer in their lifetime. The available chemotherapeutic agents are specific and effective against limited forms of the cancer. Moreover toxicity constraint and inability to eliminate cancer completely are some major factors that restrict their usage. Various lines of evidences have shown link between cancer and immune system. Components of immune system are capable of recognizing cancerous cells and supplement chemotherapy that ultimately leads to tumour regression.

Keeping in view the fact that most of the anticancer drugs are not successful in eliminating cancer and are toxic at higher dose. It can be speculated that while specific targeting of these drugs may result in better efficacy with minimal side effects, however if combined with immunomodulators can offer a promising strategy to eliminate cancer. In the present study we have evaluated antitumorogenic potential of tuftsin bearing etoposide liposome against soft tissue sarcoma in swiss albino mice. The formulation was found to be more effective than free as well liposomised form of etoposide that was devoid of tuftsin. The efficacy of the formulation was evaluated on the basis of histopathological examinations and survival rate.

In other set of experiment we evaluated antigenotoxic effect of immunomodulator tuftsin against cyclophosphamide-induced genotoxicity. The result of the study demonstrated that treatment with tuftsin alleviate cyclophosphamide induced genotoxic manifestation on the basis of chromosomal aberration frequency pattern. Tuftsin also protects immune cells from toxic effect of cyclophosphamide by increasing their proliferation and minimizing chromosomal disorganization.

Finally, on the basis of data obtained in the present study, we conclude that tuftsin augment the activity of etoposide and its combination with later offers a novel strategy for the treatment of cancer. On the other hand antimutagenic effect shown by tuftsin against cyclophosphamide induced genotoxicity led us to conclude that beside anticancer activity tuftsin can also play key role in alleviating mutagenesis induced by most of the carcinogen.