List of Publication

(As corresponding author and First author

1. Khushwant Singh, Pramod Kumar Gautam. Emulating the Role of Neutrophils in Head and Neck Cancer Microenvironment: Prognostic Role and Therapeutic Strategies J Cancer Immunol. 2023;5(2):61-73.
2. Anita Chauhan, Sonam Agarwal, Marilyn Masih, Pramod Kumar Gautam. The Multifunction Role of Tumor-Associated Mesenchymal Stem Cells and Their Interaction with Immune Cells in Breast Cancer. Immunological Investigation. 2023:24;1-23.
3. Sonam Agarwal, Anita Chauhan, Pramod Kumar Gautam Immunomodulatory effects of β-defensin 2 on tumor associated macrophages induced antitumor function in breast cancer. Advances in Cancer Biology - Metastasis 7 (2023) 100102
4. Sonam Agarwal, Anita Chauhan, Khushwant Singh, Kunal Kumar, Rupinder Kaur, Marilyn Masih and Pramod Kumar Gautam. Immunomodulatory effects of β-defensin 2 on macrophages induced immuno-upregulation and their antitumor function in breast cancer. BMC Immunology. 2022; 23-53.
5. Marilyn Masih, Sonam Agarwal, Rupinder Kaur, Pramod Kumar Gautam. Role of chemokines in breast cancer. Cytokine. 2022;155:155909.
6. Pramod Kumar Gautam, Sanjay Kumar, M.S. Tomar, Rishi Kant Singh, A. Acharya, Sanjay Kumar, B. Ram. (2017). Selenium nanoparticles induce suppressed function of tumor associated macrophages and inhibit Dalton's lymphoma proliferation. Biochemistry and Biophysics Reports. 2017.21;12:172-184.
7. Pramod Kumar Gautam, Sanjay Kumar, Tomar MS, Rishi Kant Singh, Acharya A, Ritis Shyanti K, Anita, Sonal Swaroop, Sanjay Kumar and B Ram. Biologically Synthesized Gold Nanoparticles using Ocimum sanctum (Tulsi Leaf Extract) Induced Anti-Tumor Response in a T Cell Daltons Lymphoma. Journal of Cell Science & Therapy. 2017; 8:6.1-12.

8. Pramod Kumar Gautam & Arbind Acharya. (2015). Antigenic Hsp70–peptide upregulate altered cell surface MHC class I expression in TAMs and increases anti- tumor function in Dalton's lymphoma bearing mice. Tumor Biology . 36:2023–2032.

9. Pramod K. Gautam & Arbind Acharya. (2014) Suppressed expression of homotypic multinucleation, extracellular domains of CD172α (SIRP-α) and CD47 (IAP) receptor in TAMs up-regulated by Hsp70-peptide complex in Dalton's lymphoma. Scandinavian Journal of Immunology. 2014;80;22-35.

10. Gautam PK, Maurya BN, Kumar S, Deepak P, Kumar S Jr, Tomar MS, Acharya A. (2013). Progressive growth of a murine T cell lymphoma alters population kinetics and cell viability of macrophages in a tumor-bearing host. Tumor Biology. 34:827–836.

My expertise and outcome

The areas of interest in carcinogenesis are cell cycle, mitogenic and cell survival signaling, and apoptosis, tumor angiogenesis, DNA damage/repair and organ specific carcinogenesis, including that of Breast cacner, Prostate cacner, and H&N cancer etc. Discovering and evaluating anticancer activities of small bio-molecules and plant extracts and providing scientific basis (mechanisms) for their effectiveness in regressing carcinogenesis. Of specific importance is the understanding of mechanisms at all levels viz., molecular, cellular and organ levels in both in vitro as well as in vivo animal model systems. The goal is to develop mechanism-based non-toxic anticancer agents for their potential use in cancer management by targeted drug delivery and early detection of cancer.

Research Contributions (selected)

- Scientific contributions have been made in the area of cancer chemopreventive drug desingning & discovery. Studies have led to the discovery of many novel mechanisms of action of chemopreventive agents against various cancers as evident from publications and citations. More importantly, the extensive work paved the way for a chemopreventive biopeptide Hsp70, β-defensin in human Breast cancer, Head & Neck cancer prostate cancer patients.
- We identified Hsp70 SBD domains containing tumor-associated antigen which boost anti-tumor function and immunomodulatory effect in macrophages and TAMs.
- We identified Hsp70 autologous treatment enhances the host survival rate as compare to control.
- We identified that these agents interfere with the process of angiogenesis to inhibit tumor vascularization and its growth and progression.
- We identified that WS and TC, a flavonoid, can sensitize cancer cells for chemotherapy. IP6 (inositol hexaphosphate) works selectively against prostate cancer cells.

- Recently we identified that M1 macrophage facilities the tumor associated MSCs tumor promoting function into tumor-suppressing function.
- Recently we identified that tumor derived exosomes facilitate tumor progression and proteomic data shows they cargo several miRNA.
- Recently we identified that several nanoparticles such as Au, Ag, Se, facilitate anti-tumor function as well as immunomodulation but it also effect normal function of control cells.
- Recently we identified molecular markers in early and late-stage breast cancer patients which help to identify Stage 1 patients which is very rare. (Work is under process)