

Presentation title: Therapeutic Efficacy of the Combinatorial Regimen of Temozolomide and Bacoside A on U87MG Glioblastoma cell lines

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Abstract:

Glioblastoma multiforme (GBM) is the most common primary brain tumor in adults accounting for 45.2% of malignant primary brain and CNS tumors. The conventional treatment modality for GBM includes, surgery followed by radiation and chemotherapy. The effect of currently used chemotherapeutic drug Temozolomide is not satisfactory because of tumor resurrection, toxicity to non-cancerous cells and chemoresistance all together compromising patient survival. Furthermore, several genetic alterations including several cells signaling pathway genes are involved in GBM pathogenesis. Numerous studies have documented various herbal products as novel anticancer drugs for efficient cancer treatment. Currently used chemotherapeutic agents are systemic and cause harmful side effects. Compared to highly toxic and expensive chemotherapeutic agents, herbal products have enabled the development of safer, nontoxic, and affordable treatment for cancer. In this context, we chose to study the efficacy of the combinatorial regimen of Bacoside A and Temozolomide for treating glioblastoma. Bacoside A is a triterpenoid saponin isolated from *Bacopa monnieri*. It is a mixture of chemical compounds, known as bacosides. It has shown a promising effect in anti-cancer treatments in different types of cancers. In the present study, the chemotherapeutic efficacy of the combinatorial regimen of Bacoside-A & Temozolomide in U87MG glioblastoma cell line was evaluated through various assays such as determination of cytotoxicity through Assays such as LDH assay, NO assay, ROS estimation assay, and apoptotic potential and autophagy through analyzing the expression profile of various genes. The results revealed enhanced chemotherapeutic efficacy of the combinatorial regimen of bacoside and temozolomide compared to individual treatments.



Biography:

Dr. V Vijaya Padma is a professor at Bharathiar university, Coimbatore, Tamil Nadu India, is distinguished and accomplished figure in the field of Cancer biology, renowned for her significant contributions to molecular toxicology, molecular genetics, and translational research. With a career spanning several decades, Dr. V Vijaya Padma has become a leading authority in her field, earning the respect and admiration of peers and students alike. Dr. Padma's research has consistently pushed the boundaries of knowledge in Cancer Biology, with numerous groundbreaking publications in esteemed journals. Her work on anticancer, combinatorial research and chemoresistance using phytochemicals has not only advanced our understanding of the treatment failure but has also paved the way for future innovations in the field. In addition to her research accomplishments, Dr. V Vijaya Padma has been actively involved in many academic and administrative responsibilities for the university, where she has served in various capacities. Dr. V Vijaya Padma continues to inspire the next generation of scholars through her ongoing research, mentorship, and commitment to excellence in Cancer biology. Her Google Scholar profile stands as a testament to the depth and breadth of her contributions to the world of academia.