

Role of immunostimulants and gut probiotics in the shrimp, *Penaeus monodon* aquaculture at amplam in srikakulam district of Andhra Pradesh

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Extensive use of antibiotics and chemicals in aquaculture for infectious bacterial and viral diseases leads to development of resistant lethal strains of microbes and the accumulation of antibiotics and chemicals in the shrimp, thereby hampering production and export. Use of beneficial bacteria like gut probiotics and immunostimulants showed promising positive results. The present study was carried out on the application of gut probiotics in the feeds of the shrimp, *Penaeus monodon*, with and without the addition of immunostimulants (1, 3 – β glucan). The experiments were carried out in one control and two experimental ponds at Amplam in Srikakulam district of Andhra Pradesh during summer and winter months for two years. The immunological indices in the present study were graphically represented with line diagrams to evaluate the statistical significance. Total haemocytic and phagocytic counts were measured by collecting random samples from the shrimp haemolymph to evaluate the phagocytic activity with and without immunostimulants administered along with gut probiotics in the feeds. A significant growth, survival, increased haemocytic count and a phagocytic activity with resistance to diseases were observed. Immunostimulants administered along with gut probiotics are beneficial, economical, ecofriendly, produce no adverse effects and are more effective than administering chemicals and antibiotics for healthy and organic shrimp farming.

Keywords: *Penaeus monodon*, Immunostimulants, gut probiotics, haemocytes, phagocytes & antibiotics.

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Isolation and evaluation of phyto-compounds against cancer and expression analysis of related genes in cell lines

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Cancer is one of the world's most dreaded diseases causing the death of lakhs of people at the global level every year. It is estimated that there are 2 to 2.5 million cancer patients at any given point of time in India alone with about 0.7 million new cases coming every year and almost half of them die every year. Nearly two-third of the new cancer cases are diagnosed in their advanced and incurable stage. More than 60% of these affected patients are in the prime of their life between the ages of 35 and 65 years. Many methods have been adopted to treat the disease including the methods involving combination of drug therapies, but a complete cure has not been found beyond a certain stage. This challenging task has intrigued many researchers to work for a complete cure of the disease. Presently, Chemotherapy and Radiation therapy are used in the treatment of cancer. These therapies while curing the disease also damage normal cells adjacent to the cancerous cells apart from causing various other side effects such as nausea, vomiting, loss of hair, allergic reactions, liver disorders, heart arrhythmias, etc. Phyto-anti-oxidants having anti-cancer properties with minimal side effects are a good hope for treatment of the disease in future. The present study aims at identifying plant species having compounds with potential anticancer properties, their extraction, identification, quantification and evaluation against cancerous cell lines, besides identifying the levels of expression of the anti-cancerous genes.

Biography

C. Shivakanth is working for his Ph.D. degree under the guidance of Prof. D. Manohar Rao in Osmania University. He worked as Junior Analyst in Thomson Reuters (Scientific) for a brief period of two years after completing his Masters of Science (M.Sc.) degree from Osmania University in 2007.

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