

Production of a prodigious drug with anticancer and immunosuppressive properties

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Prodigiosin is a tripyrrolic pigment that exhibited numerous biological activities including antibacterial, immunosuppressive and anticancer properties. Prodigiosin is reported to kill cancer cell lineages by either inducing caspases dependent apoptosis, DNA intercalation, altering cell signaling pathways or inhibiting the action of topoisomerase I/II. It has been showed cytotoxic effects on hepatocellular carcinoma cells, breast cancer cells and neuroblastoma cells. The present study was aimed at production of prodigiosin and exploring its applications. Peptone glycerol medium (PGM) was used to screen out red colony forming bacteria from waste coconut sample. Pigment production medium was used for production of Prodigiosin. Bacterial culture inoculated in sterile production medium and incubated at 28

$\pm 2^{\circ}\text{C}$ at 300 rpm. After incubation cell pellets were harvested and lysed by acidified methanol. Prodigiosin production was confirmed by taking absorbance at 535 nm and by HPLC. On the basis of biochemical tests isolated bacteria was *Serratia* spp. Nutrient broth did not show accumulation of red pigment in bacterial cells but pigment production medium did. In initial experiments, maximum concentration of prodigiosin synthesized by was 2 g L⁻¹ in pigment production medium. It also exhibited antibacterial activity against *E.coli* and *Bacillus subtilis*. *Serratia* spp. and pigment production medium could be optimized for a cost effective production of this anticancer drug. The Admet properties for in-silico analysis are under process.

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