

Microbial Endophytes a Rich Source of Natural Products

Vishal Sharma^{1,2}, Sundeep Jaglan^{1,2}

¹Microbial Biotechnology Division, CSIR-Indian Institute of Integrative Medicine, Jammu (India)

²Academy of Scientific and Innovative Research (AcSIR), Jammu Campus, Jammu (India)

ABSTRACT

People worldwide are being threatened by diseases like AIDS, bird flu, Cancer, SARS etc. along with an increase in environmental degradation, loss of biodiversity, and spoilage of water, land and air due to household and industrial sewage, insecticides and poisonous gases. Therefore, it is important to isolate new compounds to provide us relief in all these aspects of human conditions. Endophytes are the microbes that are present in every plant on earth. They reside in the living tissues of the plants in a variety of relationships ranging from slightly pathogenic to symbiotic. Endophytes are relatively less studied and producer of a number of medically important compounds including antimycotics, anticancers, immunosuppressants and antibiotics. Endophytes are effective in developing medicines required to treat new diseases in humans, plants and animals. About 1 million endophytic species are estimated to be present in plants, however only few are studied which defines the possibilities of finding new lead molecules from the endophytes that are yet to be explored. Endophytes synthesize many chemicals inside plants that provide defense to the host against Pathogens.