



Purification and Characterization of Secondary Metabolites from Bacterial Endophytes Isolated from *Mentha piperita*

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Abstract : Endophytes are the microbes that live within the host plant tissues without causing any visible disease symptoms. Depending on their nutritional requirements they can live as biotrophic parasites or saprotrophs. They also represent a huge reservoir of microbes that are explored very poorly. It is believed that plants which are able to survive in harsh environment, plants that are used for special purpose such as herbal medicine and plants which show an unusual longevity contains endophytes which produces novel bioactive compounds. In the present investigation, the putative endophytes were isolated from leaves and stems of *Mentha piperita* (peppermint) plant. A total of 4 different bacterial endophytes were isolated from leaves which were marked as L1, L2, L3 and L4 while only 2 different types of bacterial endophytic cultures were isolated from stems of the plant which were marked as S1 and S2. These bacterial endophytes were isolated and maintained in pure form on LB medium. No recording of fungal endophytes was observed on PDA medium plates. These bacterial cultures were further progressed for the production of secondary metabolites. The secondary metabolites were extracted using ethyl acetate as solvent. Further, secondary metabolites were dried to obtain the crude extract and were purified using column chromatography, and identified via TLC, GC-MS and FT-IR spectra. These metabolites were characterized as terpenes viz. cinnamaldehyde, cinnamyl alcohol and eugenol as recorded by GC-MS spectra.

Key words : Bacterial endophytes, *Mentha piperita*, leaves, stems, secondary metabolites.

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