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Letter to Editor

Microbial secondary metabolites needs beneficial exploitation

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Dear Editor,

Microbial secondary metabolites are lower molecular weight compounds, which shows high importance in the process of drug discovery. They are usually not involved in the primary growth the organisms but helpful in formation of different chemically active compounds. These compounds can support human health by acting as an antibiotic, anticancer and antitumor agents etc.,¹ Recent studies reported that there were around 2140000 secondary metabolites observed from the microbes and categorized under five major groups. Terpenoids & Steroids, Alkaloids, non-ribosomal polypeptides, polyketides and enzyme cofactors. On the other hand, the secondary metabolites produced from plant sources were broadly utilized in these recent years due to its easy availability and accessibility. Plants were observed to be the rich source of secondary metabolite with a broad spectrum. Most of the plant synthesized chemically active compounds are phenols or oxygen substituted derivatives with its own economic importance. Although plant source of bioactive compounds plays a vital role in drug discovery, the loss of biodiversity and environmental impact limits the preference of plant-based source. Hence microbial source was observed to be the ideal one and research attraction should be more on the microbial platform.¹

Exclusive researches on microbial secondary metabolites and its significant compound identification were happening during the recent years. Due to the diverse community of microbial existence and its metabolic versatility microbes were selected for large scale production of bio active compounds. Many studies showcased related to the microbial bioactive compound production and their ability to be economically important. Some of them sorted such as marine fungi for producing anticancer compounds (Deshmukh et al.), Streptomyces heliomyacin for the production of actinomycin (Zhu et al.) and the co-cultivation of fungi and bacteria led to the production of new secondary metabolites (Wakefield et al). Different factors affect the bioactive compound production in the microbes. Recent researches focus more on the genetic factors which has more potent answer. The expression of Cryptic gene clusters which are not active under normal conditions would be helpful in the exploitation of biological active compounds from the microbes.² Hence Molecular studies and Genetic Engineering of microbes' paves way for the better transition, which needs an uninterrupted support from the government funding agencies to escalate the research work.

Author's Contribution

Contributing to all the authors

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Conflict of Interest

None.

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