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Bio manufacturing of biorhizome-based colchicine

Many human medicines are bio manufactured by recombinant DNA technology. Colchicine is one of the potential plant-based alkaloid medicines used to treat gout, which is commercially extracted from *Gloriosa superba*. My laboratory is establishing the biorhizome-based colchicine bio manufacturing technology to produce the drugs. *G. superba*-based biorhizomes are unique and efficient colchicine biosynthetic mechanisms, which is an advanced biotechnological platform compared to root and cell cultures. Colchicine from biorhizomes could lower upstream bio manufacturing costs, speed production and reduce pesticide contamination. Metabolic engineering of colchicine biosynthetic pathway in biorhizome requires detailed pathway elucidation. The biorhizome-based colchicine bio manufacturing and colchicine pathway elucidation will be presented.

Biography

Ganapathy Sivakumar has extensively studied the plant-based small molecules pathway biochemistry, synthetic biotechnology and metabolic & bioprocess engineering. His research is primarily focused on bio manufacturing and biotech implications of biopharmaceuticals. He is internationally recognized in the field of Biopharmaceuticals and a pioneer in bio manufacturing of biorhizome-based colchicine. He has over 45 publications. He is also on the Editorial Board of several journals. He serves as an expert of grant proposals as well as numerous scientific journals. His laboratory focuses on metabolic and bioprocess engineering of colchicine pathway and developing potential anticancer medicine.

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