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## Bioprocess engineering of antioxidant molecule

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Vitamin E is an essential micronutrient and is widely used for its antioxidant properties. *Stichococcus bacillaris* strain siva2011 represent a renewable natural source of vitamin E. It biosynthesizes the bioactive stereoisomer RRR-α-tocopherol. Recent clinical studies suggest that vitamin E could inhibit colon, lung, mammary, and prostate carcinogenesis, as well as prevent diabetes. Moreover, cosmetic industries extensively use vitamin E in skin care products. Meanwhile, RRR-α-tocopherol prolongs the shelf life of meat. Therefore, we are biomanufacturing *S. bacillaris* strain siva2011 in a balloon type bioreactor for pharmaceutical and nutraceutical applications. The bioprocess engineering data of vitamin E will be presented.

### Biography

Biography Sivakumar's research is primarily focused on biotech implications and applications of high-value natural products. He has extensively studied the plant-based small molecules pathway biochemistry, synthetic biology and metabolic & bioprocess engineering. He is internationally recognized in the field of biopharmaceuticals and a pioneer in industrial-scale production of bioactive molecules. He has over 40 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. In addition, his group is interested in developing biofuels to address energy and environmental problems

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