Preface

Natural compounds derived from plants are in high demand in the world market due to their lesser side effects and many other advantages. Biotechnology, by employing various in vitro techniques, including hairy root culture, provides an important alternative for stable and large-scale production of plant-derived natural compounds.

The purpose of this book is to provide the latest information about hairy root culture and its applications, with special emphasis on the potential of hairy roots for the production of bioactive compounds. Due to high growth rate as well as biochemical and genetic stability, it is quite possible to study the metabolic pathways related to the production of bioactive compounds using hairy root culture. The chapters will discuss about the feasibility/potential of hairy roots for plant-derived natural compounds. The advantages and difficulties of hairy roots for up-scaling studies in bioreactors are also included. Successful examples of hairy root culture of plant species producing bioactive compounds used in food, flavours, or pharmaceutical industries are also discussed. There are many applications of hairy root system ranging from phytoremediation to vaccine production and drug delivery, and many are yet to be explored. In spite of several successful reports of hairy root culture, there is still gap in the knowledge for up-scaling of this culture system for commercial utilization. This book will be the answer to all these questions and will be valuable to researchers as well as students working in the area of plant natural products, phytochemistry, plant tissue culture, medicines and drug discovery.

Sao Luis, Brazil — Sonia Malik

http://www.springer.com/978-3-319-69768-0

Production of Plant Derived Natural Compounds
through Hairy Root Culture
Malik, S. (Ed.)
2017, XVII, 216 p. 33 illus., 19 illus. in color., Hardcover
ISBN: 978-3-319-69768-0