
Preface

For several decades, *Arabidopsis thaliana* has been the organism of choice in the laboratories of many plant geneticists, physiologists, developmental biologists, and biochemists around the world. During this time, a huge amount of knowledge has been acquired on the biology of this plant species, which has resulted in the development of molecular tools that account for much more efficient research. The significance that *Arabidopsis* would attain in biological research may have been difficult to foresee in the 1980s, when its use in the laboratory started. In the meantime, it has become the model plant organism, much the same way as *Drosophila*, *Caenorhabditis*, or mouse have for animal systems. Today, it is difficult to envision research at the cutting edge of plant biology without the use of *Arabidopsis*.

Since the first edition of *Arabidopsis Protocols* appeared, new developments have fostered an impressive advance in plant biology that prompted us to prepare *Arabidopsis Protocols, Second Edition*. Completion of the *Arabidopsis* genome sequence offered for the first time the opportunity to have in hand all of the genetic information required for studying plant function. In addition, the development of whole systems approaches that allow global analysis of gene expression and protein and metabolite dynamics has encouraged scientists to explore new scenarios that are extending the limits of our knowledge. These advances will eventually lead to an understanding of how this complex, multicellular organism works, how it copes with the particularities of a sessile life style, and how these strategies compare with those developed in other organisms.

While conceiving this second edition of *Arabidopsis Protocols*, our aim remained as it was in the first: the book should provide both experienced researchers and beginners in the field of plant biology with a comprehensive set of up-to-date protocols covering the many methods developed for work with this species. Readers should have little problem understanding the general design or the specific details of the experimental protocols. Nevertheless, we recommend reading the protocols in advance, before bench work is started. Although a few chapters in this edition have been maintained and updated, most are new and describe technologies that have only very recently been developed in *Arabidopsis*. We hope that *Arabidopsis Protocols, Second Edition* will continue as a standard reference for laboratories working with *Arabidopsis* and other plant species.

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