



*plants*



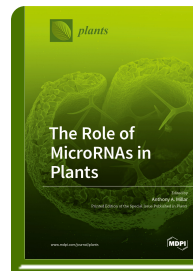
*Special Issue Reprint*

## The Role of MicroRNAs in Plants

[www.mdpi.com/books/reprint/2324](http://www.mdpi.com/books/reprint/2324)

Edited by  
Anthony Millar

ISBN 978-3-03928-730-7 (Softback)  
ISBN 978-3-03928-731-4 (PDF)



Discovered in plants at the turn of the century, microRNAs (miRNAs) have been found to be fundamental to many aspects of plant biology. These small (20–24 nt) regulatory RNAs are derived via processing from longer imperfect double-stranded RNAs. They are then incorporated into silencing complexes, which they guide to (m)RNAs of high sequence complementarity, resulting in gene silencing outcomes, either via RNA degradation and/or translational inhibition. Some miRNAs are ancient, being present in all species of land plants and controlling fundamental processes such as phase change, organ polarity, flowering, and leaf and root development. However, there are many more miRNAs that are much less conserved and with less understood functions. This Special Issue contains seven research papers that span from understanding the function of a single miRNA family to examining how the miRNA profiles alter during abiotic stress or nutrient deficiency. The possibility of circular RNAs in plants acting as miRNA decoys to inhibit miRNA function is investigated, as was the hierarchical roles of miRNA biogenesis factors in the maintenance of phosphate homeostasis. Three reviews cover the potential of miRNAs for agronomic improvement of maize, the role of miRNA-triggered secondary small RNAs in plants, and the potential function of an ancient plant miRNA.



Order Your Print Copy  
You can order print copies at  
[www.mdpi.com/books/reprint/2324](http://www.mdpi.com/books/reprint/2324)

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



## Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



## Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



## High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



## High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



## Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.