1. Record Nr. UNINA9910298338903321

Titolo	Abscisic Acid: Metabolism, Transport and Signaling / / edited by Da-Peng Zhang
Pubbl/distr/stampa	Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 2014
ISBN	94-017-9424-3
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (464 p.)
Disciplina	570 571.2 571.92 572572
Soggetti	Botanical chemistry Plant physiology Plant diseases Agriculture Plant Biochemistry Plant Physiology Plant Pathology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	ABA and Its Derivatives: Chemistry and Physiological Functions -- ABA Biosynthetic and Catabolic Pathways -- ABA Transmembrane Transport and Transporters -- ABA Transport and Distribution in Relation to Its Function in Plants -- ABA Conjugates and Their Physiological Roles in Plant Cells -- ABA Signal Perception and ABA Receptors -- Structural Basis of ABA Perception by PYR/PYL/RCAR Receptors -- Protein Kinases and Phosphatases Involved in ABA Signaling -- Protein Ubiquitination and Sumoylation in ABA Signaling -- Reactive Oxygen Species (ROS) and ABA Signalling -- Transcription factors involved in ABA signaling -- Crosstalk of Signaling Pathways between ABA and Other Phytohormones -- Cross-talk between Light and ABA -- ABA Metabolism and Signaling in Fleshy Fruits -- ABA Regulation of Stomatal Movement -- ABA Regulation of Plant Responses to Drought

and Salt Stresses -- ABA Regulation of the Cold Stress Response in Plants -- ABA and the Floral Transition -- ABA Signaling and Circadian Clock -- ABA Regulation of Plant Response to Biotic Stresses -- Principles and Practice of ABA Analysis -- Improvement of Stress Tolerance in Crops by Genetic Manipulation of ABA Metabolism, Signaling and Regulation.

Sommario/riassunto

This book provides a comprehensive review of all aspects of the molecular and cell biology of abscisic acid (ABA) metabolism, transport and signal transduction, covering our current understanding of ABA as well as research trends. The agricultural significance of ABA metabolism, transport and signal transduction is also discussed. The phytohormone ABA regulates many aspects of plant development and plays a central role in plant adaptation to environmental stresses. Over the past few decades, considerable advances have been made in the study of ABA metabolism, transport and signal transduction, greatly deepening our understanding of the underlying mechanisms of ABA function at the molecular, cell and whole-plant level and helping us improve crops' environmental tolerance. This book provides a valuable resource for researchers and advanced students interested in plant biology and agriculture.