1. Record Nr. UNINA9911019452103321

Titolo	Intracellular signaling in plants / / edited by Zhenbiao Yang
Pubbl/distr/stampa	Oxford ; ; Ames, Iowa, : Wiley-Blackwell Pub., 2008
ISBN	9786612013225 9781282013223 128201322X 9781444302387 1444302388 9781444302394 1444302396
Descrizione fisica	1 online resource (460 p.)
Collana	Annual plant reviews ; ; v. 33
Altri autori (Persone)	YangZhenbiao <1961->
Disciplina	571.7/42
Soggetti	Plant cellular signal transduction Plant physiology
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 and index.
Nota di contenuto	CONTENTS; List of contributors; Preface; Acknowledgments; 1 Transmembrane Receptors in Plants: Receptor Kinases and Their Ligands; 1.1 Introduction; 1.2 Classifications of the RLK superfamily; 1.3 Redundancy and antagonism among closely related RLKs; 1.4 Ligands for RLKs; 1.5 Small peptides; 1.6 Cysteine-rich extracellular proteins; 1.7 Other possible ligands and their-corresponding receptors; 1.8 Ligand-receptor interactions; 1.9 Early events in receptor kinase signaling: dynamics of receptor activation 1.10 Early events in receptor kinase signaling: emerging link to small GTP-binding proteins1.11 Future perspectives; 2 Heterotrimeric G-Protein-Coupled Signaling in Higher Plants; 2.1 Introduction; 2.2 Heterotrimeric G proteins in nonplant systems; 2.3 Heterotrimeric G proteins in higher plants; 2.4 Conclusions and future directions; 3 ROP/RAC GTPases; 3.1 Introduction; 3.2 Structural conservation and diversification; 3.3 Physiological functions and downstream signaling; 3.4 Mechanisms for the regulation of the ROP GTPase "ON/OFF" status; 3.5 Potential upstream regulators of ROP signaling

3.6 Future perspectives4 Mitogen-Activated Protein Kinase Cascades in Plant Intracellular Signaling; 4.1 Mitogen-activated protein kinase cascades are evolutionarily conserved signaling modules in eukaryotic cells; 4.2 History of plant MAPK research; 4.3 Plant MAPK cascades; 4.4 Negative regulation of plant MAPK cascades; 4.5 Important tools/techniques in MAPK research; 4.6 Biological functions of MAPK cascades in plants; 4.7 Signaling specificity of plant MAPK cascades; 4.8 Conclusion remarks; 5 Calcium Signals and Their Regulation; 5.1 Introduction
5.2 Ca 2 +as a second messenger in plants: of signatures and switches5.3 Ca 2 +channels and pumps; 5.4 Decoding the Ca 2 +signal; 5.5 Ca 2 +and Nod-factor signaling: a role for kinases in decoding the Ca 2 +signal?; 5.6 Ca 2 +uptake and transport; 5.7 Sensing extracellular Ca 2 +; 5.8 Ca 2 +, light, and circadian [Ca 2 +] oscillations; 5.9 Conclusions and perspectives; 6 Paradigms and Networks for Intracellular Calcium Signaling in Plant Cells; 6.1 Introduction; 6.2 CDPKs, plant calcium "sensor responders"; 6.3 CaM: small calcium sensors with a variety of target proteins
6.4 The CBL-CIPK network6.5 Perspectives: complex networks for Ca 2 +decoding in plant cells; 7 Reactive Oxygen Signaling in Plants; 7.1 Introduction to reactive oxygen metabolism; 7.2 ROS signaling and its modulation by the ROS gene network; 7.3 Subcellular localization and coordination of the ROS network; 7.4 Key components of the ROS gene network identified by reverse genetics; 7.5 The ROS signal transduction pathway of plants; 7.6 Summary; 8 Lipid-Mediated Signaling; 8.1 Introduction; 8.2 Plant-specific features of phosphoinositide signaling; 8.3 Phospholipase D signaling
8.4 Sphingolipid signaling

Sommario/riassunto

Annual Plant Reviews, Volume 33Intracellular Signaling in PlantsAn intriguing and important question in our understanding of plant developmental programming and responses to the environment is what kinds of strategies and mechanisms plant cells use for the transmission and the integration of various developmental and environmental signals. This book provides insight into this fundamental question in plant biology.Intracellular Signaling in Plants is an excellent new addition to the increasingly well-known and respected Annual Plant Reviews and offers the reader:* Ch