

1. Record Nr.	UNINA9910161648603321
Autore	Loreto Holuigue
Titolo	Salicylic Acid Signaling Networks
Pubbl/distr/stampa	Frontiers Media SA, 2016
Descrizione fisica	1 online resource (188 p.)
Collana	Frontiers Research Topics
Soggetti	Botany & plant sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	<p>The small phenolic compound salicylic acid (SA) is critical for plant defense against a broad spectrum of pathogens. SA is also involved in multi-layered defense responses, from pathogen-associated molecular pattern triggered basal defense, resistance gene-mediated defense, to systemic acquired resistance. Recent decades have witnessed tremendous progress towards our understanding of SA-mediated signaling networks. Many genes have been identified to have direct or indirect effect on SA biosynthesis or to regulate SA accumulation. Several SA receptors have been identified and characterization of these receptors has shed light on the mechanisms of SA-mediated defense signaling, which encompass chromosomal remodeling, DNA repair, epigenetics, to transcriptional reprogramming. Molecules from plant-associated microbes have been identified, which manipulate SA levels and/or SA signaling. SA does not act alone. It engages in crosstalk with other signaling pathways, such as those mediated by other phytohormones, in an agonistic or antagonistic manner, depending on hormones and pathosystems. Besides affecting plant innate immunity, SA has also been implicated in other cellular processes, such as flowering time determination, lipid metabolism, circadian clock control, and abiotic stress responses, possibly contributing to the regulation of plant development. The multifaceted function of SA makes it critically important to further identify genes involved in SA signaling networks, understand their modes of action, and delineate interactions among the</p>

components of SA signaling networks. In addition, genetic manipulation of genes involved in SA signaling networks has also provided a promising approach to enhance disease resistance in economically important plants. This ebook collects articles in the Research Topic "Salicylic Acid Signaling Networks". For this collection we solicited reviews, perspectives, and original research articles that highlight recent exciting progress on the understanding of molecular mechanisms underlying SA-mediated defense, SA-crosstalk with other pathways and how microbes impact these events.

---