



ABSTRACT

“ROS as mediators of rapid auto-propagating systemic signals”

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Reactive oxygen species (ROS) play a multitude of signaling roles in different organisms from bacteria to mammalian cells. They were initially thought to be toxic by-products of aerobic metabolism, but have now been acknowledged as central players in the complex signaling network of cells. Recent findings reveal that ROS play a key role in mediating rapid long-distance auto-propagating systemic signals in plants and that these signals are essential for the acclimation of plant to different abiotic stresses. A number of key questions related to the use of ROS as signaling molecules in cells, including the dynamics and specificity of ROS signaling, networking of ROS with other signaling pathways, and ROS waves will be addressed.