**Linking microRNA Biogenesis and Mobility to Systemic Defense in Plants**

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Plant immunity against pathogens is orchestrated through complex gene expression programs that ensure the fine-tuning of defense activation. MicroRNAs (miRNAs) are central regulators of local plant–microbe interactions; however, their contribution to systemic defense and the mechanisms underlying their mobility as signal molecules remain poorly understood. Here, we show that the induction of systemic defenses correlates with increased miRNA loading into the phloem, which is ultimately associated with the activation of systemic immunity. Consistently, mutation of *HASTY (HST)*—a factor involved in miRNA biogenesis and cell-to-cell movement—abolishes systemic defense activation. We further found that, in infected tissues, pri-miRNAs producing non-cell-autonomous miRNAs undergo enhanced co-transcriptional processing, thereby promoting their mobility. In addition, we demonstrate that two of these mobile miRNAs are essential for the activation of the systemic program. Remarkably, expression of HST exclusively in phloem companion cells of *hst* mutants was sufficient to restore systemic defense activation, underscoring the role of cell-to-cell miRNA movement. Moreover, in a *hws/hst* double mutant—where mutation of *HAWAIIAN SKIRT (HWS)* restores miRNA mobility but not abundance in *hst*—systemic resistance was also complemented. Altogether, these findings identify HST as a key regulator linking miRNA biogenesis and mobility to systemic plant immunity.