Specific targeting of the Arabidopsis resistance protein RPW8.2 to the interfacial membrane encasing the fungal Haustorium renders broad-spectrum resistance to powdery mildew.
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Abstract: Powdery mildew fungal pathogens penetrate the plant cell wall and develop a feeding structure called the haustorium to establish a successful infection. Understanding the mechanisms of host resistance to powdery mildew is crucial for developing effective抗病 strategies. In this study, we investigate the role of the Arabidopsis resistance protein RPW8.2 in conferring broad-spectrum resistance to powdery mildew. Our results indicate that RPW8.2 targets the interfacial membrane encasing the fungal haustorium, leading to the accumulation of the cytoskeleton protein actin, which plays a critical role in the establishment of host resistance. This study provides new insights into the molecular basis of broad-spectrum resistance in Arabidopsis and suggests potential targets for the development of antifungal strategies.

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