Title:	Elucidating the role of CRP32 (Cysteine-rich peptide 32) and LRR-RLK3 (leucine-rich repeat receptor kinase3) under salinity stress in Arabidopsis thaliana
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Abstract:	Salt, consisting of essential sodium and chloride ions, serves as a critical micronutrient, and is vital for robust plant growth and development, with implications extending to higher trophic levels. Sodium and chloride ions are pivotal for maintaining osmotic equilibrium within plant cells, and their deficiency can disrupt water movement, leading to dehydration and growth impairment. Conversely, excess salt, particularly sodium chloride (NaCl), induces osmotic stress in plants and disrupts electrolyte balance in animals, emphasizing the necessity of understanding stress adaptation pathways for sustainable agriculture and human health. Plants have evolved sophisticated strategies, including ion exclusion, osmotic adjustment, and antioxidant defense mechanisms, to mitigate salt-induced damage and ensure cellular homeostasis, enabling survival even in saline environments. A particularly intriguing aspect is the role of Cysteine-Rich Peptides (CRPs) in stress-mediated signaling, orchestrating salt nutrition homeostasis and illuminating the intricate molecular choreography of resilience in adverse conditions, thereby offering promising avenues for enhancing crop productivity and ecosystem resilience.
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