Brassinosteroids Counteract Abscisic Acid in Germination and Growth of *Arabidopsis*

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Brassinosteroids (BRs) are involved in multiple plant growth and development processes, such as cell elongation, photomorphogenesis, flowering time control, and stress responses. The phytohormone abscisic acid (ABA) is crucial to plant development and adaptation to stressful environments. The receptors and pathways of BRs and ABA have been deeply studied. But the relationship between them remained largely unknown and there are only few reports about it. Our experiments showed that the BR-deficient and BR-insensitive *Arabidopsis* mutants *det2*, *bri1–5* and *bri1–9* were more sensitive to ABA than the wild type (Ws-2), especially the *det2* and *bri1–9* mutants. Germination, hypocotyl and root elongation, and stomatal apertures of the mutants were more severely inhibited by ABA. All the results suggest that BRs counteract ABA in regulating plant growth, and the interaction may be complicated. The possible mechanisms are discussed.

Key words: Abscisic Acid, Brassinosteroids, Germination, Stomatal Aperture