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ON THE COVER

A shoot axillary bud will either grow out to produce a branch or remain dormant in the leaf axil, depending on the integration of endogenous and environmental stimuli mediated by hormonal signals. Aguilar-Martinez et al. (pages 458–472) report on Arabidopsis BRANCHED1 (BRC1), which encodes a TCP transcription factor closely related to maize teosinte branched1 (tb1). The authors show that, like tb1, BRC1 constitutes a key point at which signals controlling branching are integrated within axillary buds. BRC1 is expressed in developing axillary buds and functions to arrest bud development in response to developmental and environmental stimuli. It has previously been found that long-range signaling promoting axillary bud arrest is controlled both by auxin produced in the shoot apex and by a novel carotenoid derivative called the MAX-dependent signal synthesized in the root. Mutant and expression analyses show that BRC1 functions downstream of the MAX pathway and also is required for auxin-induced apical dominance. The cover image shows a scanning electron micrograph of a young axillary bud in the axil of a wild-type Arabidopsis rosette leaf.

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