ON THE COVER

APETALA3 (AP3) genes, which specify petal and stamen identity in flowering plants, arose from a major gene duplication event that led to paralogous euAP3 and TM6 gene lineages in the core eudicots. Analysis of AP3/DEF and TM6 genes in petunia (Rijpkema et al., pages 1819–1832) and tomato (de Martino et al., pages 1833–1845) show that TM6 functions mainly in determining stamen identity and exhibits typical C-class expression patterns in both species, whereas AP3 functions as a typical B-class gene involved in both petal and stamen identity. The results further show that subfunctionalization of the two lineages has led to somewhat different patterns of expression in these closely related species. The cover shows petunia wild-type (top left), petunia tm6/+ def mutant (bottom left), tomato wild-type (top right), and tomato ap3 mutant (bottom right) flowers.

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