

**P0917****Methylation of the S_f Locus in Almond Is Associated with S-RNase Loss of Function**

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Room:

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Self-compatibility in almond (*Prunus dulcis*) is attributed to the presence of the S_f haplotype, allelic to and dominant over the series of S-alleles controlling self-incompatibility. Some forms of the S_f haplotype, however, are phenotypically self-incompatible even though their nucleotide sequences are identical. DNA from leaves and styles from genetically diverse almond samples was cloned and sequenced and then analyzed for changes affecting S_f -RNase variants. Epigenetic changes in several cytosine residues were detected in a fragment of 4700 bp of the 5' upstream region of all self-compatible samples of the S_f -RNases, differentiating them from all self-incompatible samples of S_f -RNases analyzed. This is the first report of DNA methylation in a Rosaceae species and appears to be strongly associated with inactivation of the S_f allele. Results facilitate an understanding of the evolution of self-compatibility/self-incompatibility in almond and other *Prunus* species, and suggest novel approaches for future crop improvement.

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