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Title	S-RNase loss of function in almond is associated with methylation of the Sf locus	
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Abstract		
<p>Self-compatibility in almond is attributed to the presence of the Sf haplotype, allelic to and dominant over the series of S-alleles controlling self-incompatibility. Some forms of the Sf 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 Sf 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 Sf allele, differentiating them from all self-incompatible samples of Sf analyzed. This is the first report of DNA methylation in a <i>Rosaceae</i> species and appears to be strongly associated with inactivation of the Sf allele. Results facilitate an understanding of the evolution of self-compatibility/self-incompatibility in almond and other <i>Prunus</i> species, and suggest novel approaches for future crop improvement.</p>		