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**DIVERGENT ROLES OF A PAIR OF HOMOLOGOUS  
JMONJI/ZINC-FINGER-CLASS TRANSCRIPTION  
FACTOR IN THE REGULATION OF ARABIDOPSIS  
FLOWERING TIME**

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Flowering in *Arabidopsis* is controlled by multiple pathways including the photoperiod pathway and the *FLC*-dependent pathway. Here we report that a pair of related jumonji (Jmj)-class transcription factors, EARLY FLOWERING 6 (ELF6) and RELATIVE OF EARLY FLOWERING 6 (REF6), have divergent roles in the regulation of *Arabidopsis* flowering. ELF6 acts as a repressor in the photoperiod pathway while REF6, which has the highest similarity to ELF6, is an *FLC* repressor. Ectopic expression studies and expression pattern analyses show that ELF6 and REF6 have different cellular roles and are also regulated differentially despite their sequence similarities. Repression of *FLC* expression by REF6 accompanies histone modifications in *FLC* chromatin, indicating that the transcriptional regulatory activity of this class of proteins includes chromatin remodeling. As far as we know, our report is the first demonstration of the *in vivo* functions of this class of proteins in higher eukaryotes. Roles of *ELF5* and *HUA2* on photoperiodic and *FLC*-dependent floral regulation in *Arabidopsis* will also be reported.

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