

(4)

CLONING *CITRUS SINENSIS* FLORAL TIMING AND MERISTEM
IDENTITY GENES TO IDENTIFY PGRS TO REGULATE FLOWERING

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It is commercially valuable to be able to manipulate flowering in citrus. Citrus has a lengthy juvenile phase that limits traditional breeding programs. Annually, time of flowering and floral intensity impact yield and net income. Identifying the genes that regulate juvenility and floral development is key to manipulating citrus floral phenology. *TERMINAL FLOWER* is a key regulator of floral timing in arabidopsis. A homologue of this gene (*CsTFL*) was isolated from the 'Washington' navel orange (*Citrus sinensis* L. Osbeck). *CsTFL* had 65% amino acid identity to *AtTFL*. Wild-type arabidopsis plants ectopically expressing *CsTFL* showed the expected late-flowering phenotype. Homologues of *LEAFY* and *APETALA1*, meristem identity genes that regulate flower formation, were also isolated. *CsLFY* and *CsAPI* had 65% amino acid identity to their arabidopsis counterparts. Wild-type arabidopsis plants ectopically expressing *CsLFY* or *CsAPI* showed the expected early-flowering phenotypes. Results of real-time PCR demonstrated that juvenility in citrus was positively correlated with *CsTFL* transcript accumulation and negatively correlated with *CsLFY* and *CsAPI* RNA levels.