



## TFL1 (aC-20): sc-12670

### BACKGROUND

Shoot apical meristems develop into floral meristems, which initiate flowering in response to internal or external signals. In a floral meristem, a cell's fate is determined by its relative position within the meristem and by the expression of specific regulatory proteins. The pattern that develops is a determinate series of four floral whorls, which consists of sepals, petals, stamens, and carpels. Several MADS-box regulatory proteins, including *Apetala* (AP) 1, 2 and 3, *Cauliflower* (CAL), *Terminal Flower 1* (TFL1), *Leafy* (LFY), *Superman* (SUP), and *Agamous* (AG), overlap in expression and function to specify each floral whorl. For instance, *Agamous* expression promotes the development of stamens and carpels. Additionally, *Superman* is required for the proper spatial development of reproductive tissue, illustrated by the development of an additional whorl of stamens at the expense of carpels in SUP mutants.

### REFERENCES

1. Sakai, H., Medrano, L.J. and Meyerowitz, E.M. 1995. Role of SUPERMAN in maintaining *Arabidopsis* floral whorl boundaries. *Nature* 378: 199-203.
2. Ruiz-Garcia, L., Madueno, F., Wilkinson, M., Haughn, G., Salinas, J. and Martinez-Zapater, J.M. 1997. Different roles of flowering-time genes in the activation of floral initiation genes in *Arabidopsis*. *Plant Cell* 9: 1921-1934.
3. Bomblies, K., Dagenais, N. and Weigel, D. 1999. Redundant enhancers mediate transcriptional repression of AGAMOUS by APETALA2. *Dev. Biol.* 216: 260-264.
4. Lawton-Rauh, A.L., Buckler, E.S., 4th and Purugganan, M.D. 1999. Patterns of molecular evolution among paralogous floral homeotic genes. *Mol. Biol. Evol.* 16: 1037-1045.
5. Liljgren, S.J., Gustafson-Brown, C., Pinyopich, A., Ditta, G.S. and Yanofsky, M.F. 1999. Interactions among APETALA1, LEAFY, and TERMINAL FLOWER1 specify meristem fate. *Plant Cell* 11: 1007-1018.
6. Riechmann, J.L., Ito, T. and Meyerowitz, E.M. 1999. Non-AUG initiation of AGAMOUS mRNA translation in *Arabidopsis thaliana*. *Mol. Cell Biol.* 19: 8505-8512.
7. Ferrandiz, C., Gu, Q., Martienssen, R. and Yanofsky, M.F. 2000. Redundant regulation of meristem identity and plant architecture by FRUITFULL, APETALA1 and CAULIFLOWER. *Development* 127: 725-734.

### SOURCE

TFL1 (aC-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TFL1 of *Arabidopsis thaliana* origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12670 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

TFL1 (aC-20) is recommended for detection of TFL1 of *Arabidopsis thaliana* Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

1. Conti, L. and Bradley, D. 2007. TERMINAL FLOWER1 is a mobile signal controlling *Arabidopsis* architecture. *Plant Cell* 19: 767-778.

### STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.