SANTA CRUZ BIOTECHNOLOGY, INC.

AP2 (aA-20): sc-12635

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Liljegren, 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

AP2 (aA-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of AP2 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-12635 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AP2 (aA-20) is recommended for detection of AP2 of *Arabidopsis thaliana* origin by 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. Urcelay, E., et al. 2000. Cloning and functional characterization of the 5' regulatory region of the human mitochondrial glycerol-3-phosphate dehydrogenase gene. Lack of 3,5,3'-triiodothyronine responsiveness in adipose tissue. Eur. J. Biochem. 267: 7209-7217.
2. Butta, N., et al. 2001. Cloning and functional characterization of the 5' flanking region of the human mitochondrial malic enzyme gene-regulatory role of Sp1 and AP-2. Eur. J. Biochem. 268: 3017-3027.
3. Zhang, X., et al. 2002. Meis homeoproteins directly regulate Pax6 during vertebrate lens morphogenesis. Genes Dev. 16: 2097-2107.
4. Aukerman, M.J., et al. 2003. Regulation of flowering time and floral organ identity by a MicroRNA and its APETALA2-like target genes. Plant Cell 15: 2730-2741.
5. Pierre, K., et al. 2009. Linking supply to demand: the neuronal monocarboxylate transporter MCT2 and the α-amino-3-hydroxyl-5-methyl-4-isoxazole-propionic acid receptor GluR2/3 subunit are associated in a common trafficking process. Eur. J. Neurosci. 29: 1951-1963.

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 or our catalog for detailed protocols and support products.