



## CLV3 (at-96): sc-33751

### BACKGROUND

The shoot and root meristems of higher plants are multicellular structures that initiate postembryonic organogenesis. Meristems maintain their size and structure by coordinating organ initiation with stem cell renewal. In the shoot meristem, WUSCHEL is responsible for stem cell identity, while CLAVATA1, 2 and 3 promote organ initiation, which leads to the formation of leaves and inflorescences. In the root meristem, asymmetric cell division is required for the formation of ground tissue, which is mediated by the SHORT-ROOT (SHR) protein and the radial patterning in the root, hypocotyl and inflorescences, which is mediated by SCARECROW (SCR).

### REFERENCES

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2. Laux, T., Mayer, K.F., Berger, J. and Jurgens, G. 1996. The WUSCHEL gene is required for shoot and floral meristem integrity in *Arabidopsis*. *Development* 122: 87-96.
3. Fletcher, J.C., Brand, U., Running, M.P., Simon, R. and Meyerowitz, E.M. 1999. Signaling of cell fate decisions by CLAVATA3 in *Arabidopsis* shoot meristems. *Science* 283: 1911-1914.
4. Pysh, L.D., Wysocka-Diller, J.W., Camilleri, C., Bouchez, D. and Benfey, P.N. 1999. The GRAS gene family in *Arabidopsis*: sequence characterization and basic expression analysis of the SCARECROW-LIKE genes. *Plant J.* 18: 111-119.
5. Schoof, H., Lenhard, M., Haecker, A., Mayer, K.F., Jurgens, G. and Laux, T. 2000. The stem cell population of *Arabidopsis* shoot meristems is maintained by a regulatory loop between the CLAVATA and WUSCHEL genes. *Cell* 100: 635-644.
6. Helariutta, Y., Fukaki, H., Wysocka-Diller, J., Nakajima, K., Jung, J., Sena, G., Hauser, M.T. and Benfey, P.N. 2000. The SHORT-ROOT gene controls radial patterning of the *Arabidopsis* root through radial signaling. *Cell* 101: 555-567.
7. Yu, L.P., Simon, E.J., Trotochaud, A.E. and Clark, S.E. 2000. POLTERGEIST functions to regulate meristem development downstream of the CLAVATA *loci*. *Development* 127: 1661-1670.

### SOURCE

CLV3 (at-96) is a rabbit polyclonal antibody raised against amino acids 1-96 representing full length CLV3 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.

### RESEARCH USE

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

### APPLICATIONS

CLV3 (at-96) is recommended for detection of CLV3 of *Arabidopsis thaliana* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)], 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 goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### STORAGE

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

### PROTOCOLS

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