



CLV3 (aN-20): sc-12598

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

1. Di Laurenzio, L., et al. 1996. The SCARECROW gene regulates an asymmetric cell division that is essential for generating the radial organization of the *Arabidopsis* root. *Cell* 86: 423-433.
2. Laux, T., et al. 1996. The WUSCHEL gene is required for shoot and floral meristem integrity in *Arabidopsis*. *Development* 122: 87-96.
3. Fletcher, J.C., et al. 1999. Signaling of cell fate decisions by CLAVATA3 in *Arabidopsis* shoot meristems. *Science* 283: 1911-1914.
4. Pysh, L.D., et al. 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., et al. 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., et al. 2000. The SHORT-ROOT gene controls radial patterning of the *Arabidopsis* root through radial signaling. *Cell* 101: 555-567.
7. Yu, L.P., et al. 2000. POLTERGEIST functions to regulate meristem development downstream of the CLAVATA *loci*. *Development* 127: 1661-1670.

SOURCE

CLV3 (aN-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of 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.

Blocking peptide available for competition studies, sc-12598 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CLV3 (aN-20) is recommended for detection of CLV3 of *Arabidopsis thaliana*, *Lycopersicon esculentum*, and *Nicotiana tabacum* 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).

RESEARCH USE

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

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. Gomez-Mena, C., et al. 2005. Transcriptional program controlled by the floral homeotic gene AGAMOUS during early organogenesis. *Development* 132: 429-438.

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 or our catalog for detailed protocols and support products.