PIN1 (aP-20): sc-27163

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BACKGROUND

Polar auxin transport controls multiple developmental processes in plants, including the formation of vascular tissue. Mutations affecting the PIN-FORMED (PIN1) gene diminish polar auxin transport in *Arabidopsis thaliana* inflorescence axes. The PIN1 gene encodes a 67-kilodalton protein with similarity to bacterial and eukaryotic carrier proteins. The PIN1 protein is at the basal end of auxin transport-competent cells in vascular tissue and may act as a transmembrane component of the auxin efflux carrier.

REFERENCES

1. Osmani, S.A., et al. 1988. Mitotic induction and maintenance by overexpression of a G_2-specific gene that encodes a potential protein kinase. Cell 53: 237-244.

2. Letwin, K., et al. 1992. A mammalian dual specificity protein kinase, Nek1, is related to the NIMA cell cycle regulator and highly expressed in meiotic germ cells. EMBO J. 11: 3521-3531.

3. Schultz, S.J., et al. 1994. Cell cycle-dependent expression of Nek2, a novel human protein kinase related to the NIMA mitotic regulator of *Aspergillus nidulans*. Cell Growth Differ. 5: 625-635.

4. Lu, K.P., et al. 1996. A human peptidyl-prolyl isomerase essential for regulation of mitosis. Nature 380: 544-547.

5. Yaffe, M.B., et al. 1997. Sequence-specific and phosphorylation-dependent proline isomerization: a potential mitotic regulatory mechanism. Science 278: 1957-1960.

6. Ranganathan, R., et al. 1997. Structural and functional analysis of the mitotic rotamase Pin1 suggests substrate recognition is phosphorylation dependent. Cell 89: 875-886.

7. Rhee, K., et al. 1997. The NIMA-related kinase 2, Nek2, is expressed in specific stages of the meiotic cell cycle and associates with meiotic chromosomes. Development 124: 2167-2177.

SOURCE

PIN1 (aP-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PIN1 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-27163 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

PIN1 (aP-20) is recommended for detection of PIN1 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).

Molecular Weight of PIN1: 67 kDa.

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. Harscoët, E., et al. 2010. NOF1 encodes an *Arabidopsis* protein involved in the control of rRNA expression. PLoS ONE 5: e12829.

2. Ilegems, M., et al. 2010. Interplay of auxin, KANADI and Class III HD-ZIP transcription factors in vascular tissue formation. Development 137: 975-984.

3. Truernit, E., et al. 2012. OCTOPUS, a polarly localised membrane-associated protein, regulates phloem differentiation entry in *Arabidopsis thaliana*. Development 139: 1306-1315.

4. Wang, Y., et al. 2014. The stem cell niche in leaf axils is established by auxin and cytokinin in *Arabidopsis*. Plant Cell 26: 2055-2067.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.