



Kinesin (aN-20): sc-15930

BACKGROUND

Structural proteins in *Arabidopsis thaliana* provide cellular stability, facilitate protein transportation within the cell and are essential for cell growth. Three types of molecular motors are involved in the organization, dynamics and transport processes associated with the cytoskeleton. They include Myosin, which transports cargo along Actin filaments, and Kinesin and Dynein, which transport cargo along microtubules. These proteins regulate many cellular functions, including cell division and expansion, cell-to-cell communication, membrane trafficking and morphogenesis. In addition, the Dynamin-like proteins are GTP-binding proteins involved in vesicle trafficking. Extensin is a structural protein that may be involved in cell wall assembly, while Expansin is a cell wall loosening protein that induces stress relaxation and extension of cell walls and may control organ size, morphology and abscission. Also, xyloglucan (XG), a major hemicellulose in plants, is modified by the fucosyl-transferase, XG FTase, which adds a terminal fucosyl residue to XG.

REFERENCES

- Perrin, R.M., DeRocher, A.E., Bar-Peled, M., Zeng, W., Norambuena, L., Orellana, A., Raikhel, N.V., and Keegstra, K. 1999. Xyloglucan fucosyltransferase, an enzyme involved in plant cell wall biosynthesis. *Science* 284: 1976-1979.
- Cho, H.T. and Cosgrove, D.J. 2000. Altered expression of Expansin modulates leaf growth and pedicel abscission in *Arabidopsis thaliana*. *Proc. Natl. Acad. Sci. USA* 97: 9783-9788.
- Ferris, P.J., Woessner, J.P., Waffenschmidt, S., Kilz, S., Drees, J., and Goodenough, U.W. 2001. Glycosylated polyproline II rods with kinks as a structural motif in plant hydroxyproline-rich glycoproteins. *Biochemistry* 40: 2978-2987.
- Kang, B.H., Busse, J.S., Dickey, C., Rancour, D.M., and Bednarek, S.Y. 2001. The *Arabidopsis* cell plate-associated Dynamin-like protein, ADL1Ap, is required for multiple stages of plant growth and development. *Plant Physiol.* 126: 47-68.
- Reddy, A.S. and Day, I.S. 2001. Analysis of the Myosins encoded in the recently completed *Arabidopsis thaliana* genome sequence. *Genome Biol.* 2: RESEARCH0024.
- Reddy, A.S. 2001. Molecular motors and their functions in plants. *Int. Rev. Cytol.* 204: 97-178.

SOURCE

Kinesin (aN-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Kinesin 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-15930 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Kinesin (aN-20) is recommended for detection of Kinesin 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.

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.