SANTA CRUZ BIOTECHNOLOGY, INC.

PhyD (aC-19): sc-12713

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Arabidopsis development is mediated by several environmental stimuli. Light plays an important role in many developmental processes, including photosynthesis, chloroplast biogenesis, leaf initiation, and floral induction. Light-dependent development, called photomorphogenesis, relies heavily on the action of five phytochromes, PhyA, B, C, D, and E, which are involved in photoperiod sensing and the shade avoidance syndrome. These phytochromes are partially regulated by transcriptional repressors of photomorphogenic development, such as COP1 and COP9. Other light sensitive proteins include CAB (chlorophyll α/β-binding), which is essential for chloroplast development, and chalcone synthase (CHS), which mediates the flavinoid biosynthetic pathway.

REFERENCES

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2. Qin, M., et al. 1997. Overexpressed phytochrome C has similar photosensory specificity to phytochrome B but a distinctive capacity to enhance primary leaf expansion. Plant J. 12: 1163-1172.
3. Devlin, P.F., et al. 1998. Phytochrome E influences internode elongation and flowering time in *Arabidopsis*. Plant Cell 10: 1479-1487.
4. Lopez-Juez, E., et al. 1998. New *Arabidopsis* cue mutants suggest a close connection between plastid- and phytochrome regulation of nuclear gene expression. Plant Physiol. 118: 803-815.
5. Kubasek, W.L., et al. 1998. A light-independent developmental mechanism potentiates flavinoid gene expression in *Arabidopsis* seedlings. Plant Mol. Biol. 37: 217-223.
6. Stoop-Myer, C., et al. 1999. The N-terminal fragment of *Arabidopsis* photomorphogenic repressor COP1 maintains partial function and acts in a concentration-dependent manner. Plant J. 20: 713-717.
7. Karniol, B., et al. 1999. *Arabidopsis* FUSCA5 encodes a novel phosphoprotein that is a component of the COP9 complex. Plant Cell 11: 839-848.
8. Casal, J.J., et al. 2000. Two photobiological pathways of phytochrome A activity, only one of which shows dominant negative suppression by phytochrome B. Photochem. Photobiol. 71: 481-486.

SOURCE

PhyD (aC-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PhyD 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-12713 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

PhyD (aC-19) is recommended for detection of PhyD 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 PhyD: 120 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.

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.