



ACC Oxidase (aE-18): sc-12782

BACKGROUND

The five integral families of plant hormones consists of auxins, cytokinins, gibberellins (GAs), abscisic acid (ABA), and ethylene. Gibberellins, which consist of over fifty family members, mediate shoot growth. In *Arabidopsis thaliana*, SPINDLY (SPY) negatively regulates GA signal transduction. ERA1 (enhanced response to abscisic acid), which is identical to WIGGUM, controls floral and shoot apical meristem size and floral organ number in response to ABA. Ethylene is perceived by a family of five receptors, one of which is ETR1, whereas CTR1 is a negative regulator of the ethylene signal transduction pathway. Ethylene is also produced endogenously in *Arabidopsis thaliana* via a biosynthetic pathway, which is catalyzed by ACC synthase and ACC oxidase.

REFERENCES

1. Kieber, J.J., Rothenberg, M., Roman, G., Feldmann, K.A., and Ecker, J.R. 1993. CTR1, a negative regulator of the ethylene response pathway in *Arabidopsis*, encodes a member of the Raf family of protein kinases. *Cell* 72: 427-441.
2. Heidstra, R., Yang, W.C., Yalcin, Y., Peck, S., Emons, A.M., van Kammen, A., and Bisseling, T. 1997. Ethylene provides positional information on cortical cell division but is not involved in Nod factor-induced root hair tip growth in Rhizobium-legume interaction. *Development* 124: 1781-1787.
3. Jacobsen, S.E., Olszewski, N.E., and Meyerowitz, E.M. 1998. SPINDLY's role in the gibberellin response pathway. *Symp. Soc. Exp. Biol.* 51: 73-78.
4. Arteca, J.M., and Arteca, R.N. 1999. A multi-responsive gene encoding 1-aminocyclopropane-1-carboxylate synthase (ACS6) in mature *Arabidopsis* leaves. *Plant Mol. Biol.* 39: 209-219.
5. Peng, J., Richards, D.E., Moritz, T., Cano-Delgado, A., and Harberd, N.P. 1999. Extragenic suppressors of the *Arabidopsis* GAI mutation alter the dose-response relationship of diverse gibberellin responses. *Plant Physiol.* 119: 1199-1208.
6. Hall, A.E., Findell, J.L., Schaller, G.E., Sisler, E.C., and Bleeker, A.B. 2000. Ethylene perception by the ERS1 protein in *Arabidopsis*. *Plant Physiol.* 123: 1449-1458.
7. Ziegelhoffer, E.C., Medrano, L.J., and Meyerowitz, E.M. 2000. Cloning of the *Arabidopsis* WIGGUM gene identifies a role for farnesylation in meristem development. *Proc. Natl. Acad. Sci. USA* 97: 7633-7638.

SOURCE

ACC Oxidase (aE-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ACC Oxidase 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-12782 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ACC Oxidase (aE-18) is recommended for detection of ACC Oxidase 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 ACC Oxidase: 45 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.

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.