



## ETR1 (aR-18): sc-12627

### BACKGROUND

ETR1, found in the endoplasmic reticulum of leaves, roots, stems, flowers and seedlings of *Arabidopsis thaliana* and other plants, acts as an ethylene receptor. Mutant alleles of the ETR1 gene regulate ethylene insensitivity in heterologous plants by interrupting the ethylene signal transduction pathway. The resulting plant phenotype manifests delays in fruit ripening and flower senescence. Although it is not known whether ETR1 monitoring of ethylene is direct or indirect, CTR1, an ethylene mutant in *Arabidopsis*, acts downstream of ETR1 as a negative regulator.

### REFERENCES

1. Chang, C., et al. 1993. *Arabidopsis* ethylene-response gene ETR1: similarity of product to two-component regulators. *Science* 262: 539-544.
2. Yen, H.C., et al. 1995. The tomato Never-ripe locus regulates ethylene-inducible gene expression and is linked to a homolog of the *Arabidopsis* ETR1 gene. *Plant Physiol* 107: 1343-1353.
3. Schaller, G.E., et al. 1995. The ethylene response mediator ETR1 from *Arabidopsis* forms a disulfide-linked dimer. *J. Biol. Chem.* 270: 12526-12530.
4. Schaller, G.E., et al. 1995. Ethylene-binding sites generated in yeast expressing the *Arabidopsis* ETR1 gene. *Science* 270: 1809-1811.
5. Gamble, R.L., et al. 1998. Histidine kinase activity of the ETR1 ethylene receptor from *Arabidopsis*. *Proc. Natl. Acad. Sci. USA* 95: 7825-7829.
6. Rodriguez, F.I., et al. 1999. A copper cofactor for the ethylene receptor ETR1 from *Arabidopsis*. *Science* 283: 996-998.
7. Muller-Dieckmann, H.J., et al. 1999. The structure of the signal receiver domain of the *Arabidopsis thaliana* ethylene receptor ETR1. *Structure Fold Des.* 7: 1547-1556.
8. Chen, Y.F., et al. 2002. Localization of the ethylene receptor ETR1 to the endoplasmic reticulum of *Arabidopsis*. *J. Biol. Chem.* 277: 19861-19866.
9. Cancel, J.D., et al. 2002. Loss-of-function mutations in the ethylene receptor ETR1 cause enhanced sensitivity and exaggerated response to ethylene in *Arabidopsis*. *Plant Physiol.* 129: 1557-1567.

### SOURCE

ETR1 (aR-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ETR1 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-12627 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.

### APPLICATIONS

ETR1 (aR-18) is recommended for detection of ETR1 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.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.