

RPS2 (aT-16): sc-27373

BACKGROUND

Bacterial pathogens deliver type III effector proteins into the plant cell during infection. Plants express disease resistance (R) proteins that respond specifically to a particular type III effector by activating immune responses. Resistance proteins guard the plant against pathogens that contain an appropriate avirulence protein via an indirect interaction. RPS2 (resistance to *Pseudomonas syringae* protein 2) is a 909 amino acid plasma membrane protein with leucine-rich repeat, leucine zipper and P loop domains that confers resistance to *Pseudomonas syringae* infection by interacting with the avirulence gene AvrRpt2. Belonging to the disease resistance NB-LRR family, RPS2 directly associates with RIN4, which triggers plant resistance when RIN4 is degraded by AvrRpt2.

REFERENCES

- Mindrinos, M., et al. 1994. The *A. thaliana* disease resistance gene RPS2 encodes a protein containing a nucleotide-binding site and leucine-rich repeats. *Cell* 78: 1089-1099.
- Leister, R.T., et al. 1996. Molecular recognition of pathogen attack occurs inside of plant cells in plant disease resistance specified by the *Arabidopsis* genes RPS2 and RPM1. *Proc. Natl. Acad. Sci. USA* 93: 15497-15502.
- Vaitilingom, M., et al. 1998. A gene coding for an RPS2 protein is present in the mitochondrial genome of several cereals, but not in dicotyledons. *Mol. Gen. Genet.* 258: 530-537.
- Tao, Y., et al. 2000. Mutational analysis of the *Arabidopsis* nucleotide binding site-leucine-rich repeat resistance gene RPS2. *Plant Cell.* 12: 2541-2554.
- Banerjee, D., et al. 2001. The leucine-rich repeat domain can determine effective interaction between RPS2 and other host factors in *Arabidopsis* RPS2-mediated disease resistance. *Genetics* 158: 439-450.
- Axtell, M.J., et al. 2001. Mutational analysis of the *Arabidopsis* RPS2 disease resistance gene and the corresponding *pseudomonas syringae* avrRpt2 avirulence gene. *Mol. Plant Microbe Interact* 14: 181-188.
- Perrotta, G., et al. 2002. Plant mitochondrial RPS2 genes code for proteins with a C-terminal extension that is processed. *Plant Mol. Biol.* 50: 523-533.
- Mackey, D., et al. 2003. *Arabidopsis* RIN4 is a target of the type III virulence effector AvrRpt2 and modulates RPS2-mediated resistance. *Cell* 112: 379-389.
- Mauricio, R., et al. 2003. Natural selection for polymorphism in the disease resistance gene RPS2 of *Arabidopsis thaliana*. *Genetics* 163: 735-746.

SOURCE

RPS2 (aT-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of RPS2 of *Arabidopsis thaliana* origin (Accession/GI: 30173240).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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-27373 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RPS2 (aT-16) is recommended for detection of RPS2 of *Arabidopsis thaliana* origin by Western blotting. Recommended use of in Western Blotting: Starting Dilution: 1:200 (Range: 1:100-1:1000). Conjugated Anti-goat Secondary Reagents for Western Blotting: HRP, sc-2350 or AP, sc-2351 (Range: 1:2000-1:10000). Cruz Marker Compatible Anti-goat Secondary Reagents: HRP, sc-2378 or AP, sc-2381 (Range: 1:2000-1:5000).

Molecular Weight of RPS2: 31 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.

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.