SANTA CRUZ BIOTECHNOLOGY, INC.

RIN4 (aS-12): sc-27371

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. RPM1-interacting protein 4 (RIN4) associates with Resistance to Pseudomonas syringae pv maculicola 1 (RPM1) and Resistance to P. syringae 2 (RPS2) disease resistance proteins. RIN4 is the host target for AvrRpm1 and AvrRpt2 in susceptible plants. RIN4 negatively regulates AvrRpt2 virulence function. RIN4 also negatively regulates inappropriate activation of both RPM1 and RPS2.

REFERENCES

1. Mackey, D., et al. 2002. RIN4 interacts with Pseudomonas syringae type III effector molecules and is required for RPM1-mediated resistance in *Arabidopsis*. Cell 108: 743-754.
2. 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.
3. Axtell, M.J., et al. 2003. Initiation of RPS2-specified disease resistance in *Arabidopsis* is coupled to the AvrRpt2-directed elimination of RIN4. Cell 112: 369-377.
4. Lim, M.T., et al. 2004. The Pseudomonas syringae type III effector AvrRpt2 promotes virulence independently of RIN4, a predicted virulence target in *Arabidopsis thaliana*. Plant J 40: 790-798.
5. Belkhadir, Y., et al. 2004. Arabidopsis RIN4 negatively regulates disease resistance mediated by RPS2 and RPM1 downstream or independent of the NDR1 signal modulator and is not required for the virulence functions of bacterial type III effectors AvrRpt2 or AvrRpm1. Plant Cell 16: 2822-2835.
6. Coaker, G., et al. 2005. Activation of a phytopathogenic bacterial effector protein by a eukaryotic cyclophilin. Science. [Epub].
7. Chisholm, S.T., et al. 2005. Molecular characterization of proteolytic cleavage sites of the Pseudomonas syringae effector AvrRpt2. Proc Natl Acad Sci U S A 102: 2087-2092.
8. Day, B., et al. 2005. Molecular basis for the RIN4 negative regulation of RPS2 disease resistance. Plant Cell.[Epub].

SOURCE

RIN4 (aS-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RIN4 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-27371 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

RIN4 (aS-12) is recommended for detection of RIN4 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.