Background

Pathogenesis-related protein 1 (PR-1), a small antimicrobial protein which acts as a marker of plant immune signaling and is partially responsible for acquired pathogen resistance. Induced by INA, salicylic acid and pathogen infection.

Immunogen

N-terminal part of recombinant PR-1 protein from Arabidopsis thaliana UniProt: P33154, TAIR: At2g14610

Host

Rabbit

Clonality

Polyclonal

Purity

Serum

Format

Lyophilized

Quantity

50 µl

Reconstitution

For reconstitution add 50 µl of sterile water.

Storage

Store lyophilized/reconstituted at -20°C; once reconstituted make aliquots to avoid repeated freeze-thaw cycles. Please, remember to spin tubes briefly prior to opening them to avoid any losses that might occur from lyophilized material adhering to the cap or sides of the tubes.

Tested applications

Western blot (WB)

Related products

AS10 687S PR-1 protein standard, for quantification and postive control

AS12 2366 PR-2 pathogenesis-related protein 2, rabbit antibodies for Arabidopsis thaliana

AS07 208 PR-2 GLU I class I beta-1,3-glucanase, rabbit antibodies for other species, not Arabidopsis thaliana

AS07 207 PR-3 CHN class I chitinase, rabbit antibodies

AS12 2369 PR-4 Pathogenesis-related protein 4, rabbit antibodies

AS12 2373 PR-5 Pathogenesis-related protein 5, rabbit antibodies

Collection of antibodies to other proteins involved in a response to pathogen attack

Secondary antibodies

Additional information

PR-1 protein is present in very low amounts in non-induced plant material.

Overnight antibody incubation is not recommended.

This product can be sold containing Proclin if requested.

Application information

Recommended dilution

1 : 2500 (WB)

Expected | apparent MW

17.7 kDa (Arabidopsis thaliana)

Confirmed reactivity

Arabidopsis thaliana, Hordeum vulgare, Nicotiana bentamiana, Spinacia oleracea, Solanum lycopersicum, Triticum aestivum, Vitis vinifera, Zea mays

Predicted reactivity

Brassica rapa subsp. pekinensis, Brassica napus, Eutrema japonica, Glycine max, Phaseolus vulgaris, Solanum tuberosum

Not reactive in

No confirmed exceptions from predicted reactivity are currently known.

Additional information

Re-using of antibody solution is not recommended. It will contribute to increased background signal.


Application example

Recombinant PR-1 protein standard 0.05 pmol (1), 0.1 pmol (2), 0.15 pmol (3), 0.2 pmol (4), and 0.3 pmol (5) was loaded in each lane. Protein separation was done using NuPage 4-12% Tris-Bis gel (Invitrogen) LDS-PAGE and blotted 1h to PVDF. Blots were blocked immediately following transfer in 2-2.5% RPN2125 (GE Healthcare) in 20 mM Tris, 137 mM sodium chloride pH 7.6 with 0.1% (v/v) Tween-20 (TBS-T) for 1h at room temperature with agitation. Blots were incubated in the primary anti-PR-1 antibody at a dilution of 1: 10 000 in blocking reagent for 1h at room temperature with agitation. The antibody solution was decanted and the blot was rinsed briefly twice, then washed once for 15 min and 3 times for 5 min in TBS-T at room temperature with agitation. Blots were incubated in secondary antibody (anti-rabbit IgG horde radish peroxidase conjugated, recommended secondary antibody AS09 602) diluted to 1:25 000 in TBS-T for 1h at room temperature with agitation. The blots were washed as above and developed for 5 min with TMA-6 (Lumigen) detection reagent according the manufacturers instructions. Images of the blots were obtained using a CCD imager (FluorSMax, Bio-Rad) and Quantity One software (Bio-Rad). Exposure time was 1 minute.

Immunolocalization

Immunostaining of Arabidopsis thaliana seedlings treated with 250 µM SA for 120 minutes for induction of PR- gene expression (right panel) or control without SA (left panel). Steps involved: fixation: in 2 % formaldehyde in MTSB buffer for 30 minutes at 37 °C; washing with water, hydrophilization with methanol; cell wall digestion: 5-7 minutes, 0.25% Dricelaze, 0.1 % Macerozyme in 5 mM MES buffer, pH5.2; cell wall permeabilization: 10 % DMSO/3 % NP40 in MTBS buffer; primary antibody incubation: dilution 1: 200 in MTBS buffer for 3 h at RT; secondary antibody incubation: dilution 1: 1000 at RT for 1 h, goat-anti rabbit IgG Alexa 488 conjugated antibody.

Courtesy of Dr. Taras Pasternak, Freiburg University, Germany