

product **AS05 069**
PIN2 | auxin efflux carrier PIN2

product information

background	Arabidopsis thaliana auxin efflux carrier component AtPIN2 encoded by the AtPIN2 gene (also known as EIR1 and AGR1). AtPIN proteins are asymmetrically localized within plant plasma membranes and mediate polar auxin transport. AtPIN2 is a key regulator of the response of Arabidopsis roots to gravity.
immunogen	<u>KLH</u> -conjugated mixture of two synthetic peptides derived from AtPIN2 sequence <u>At5g57090</u>
antibody format	hen polyclonal affinity purified IgY PBS pH 8.5 + 0.02% sodium azide lyophilized
quantity	200 µg
storage	Store lyophilized/reconstituted at -20°C; for reconstitution add 100 µl deionized water and glycerol to a final of 50% (v/v) and store at -20°C for up to a year. 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	immunocytochemistry (ICC), western blot (WB) only on the isolated first micrometer of the root tip from seedlings
additional information	<p>This antibody will only work in western blot if the isolated first micrometers of the root tip from seedlings is used. This is the place where PIN2 protein is most strongly expressed <u>Willige</u> et al. 2011.</p> <p>And the antibody also works with the whole root extracts when the microsomal membrane fractions are used for western blotting. Latter will eliminate the cross reacting bands.</p>

application information

recommended dilution	1 : 300 - 1: 600 (ICC)
expected apparent MW	69 kDa
confirmed reactivity	<i>Arabidopsis thaliana</i>
predicted reactivity	dicots including: <i>Medicago truncatula</i> , <i>Pisum sativum</i> , <i>Vitis vinifera</i> monocots including: <i>Oryza sativa</i> , <i>Triticum aestivum</i> , <i>Zea mays</i> ; <i>Populus tremula</i> x <i>Populus tremuloides</i> ; moss: <i>Physcomitrella patens</i>
not reactive in	no confirmed exceptions from predicted reactivity known in the moment
additional information	5% normal donkey serum (Jackson ImmunoResearch, West Grove, PA) in MTSB was used for blocking and the secondary antibody was donkey anti-chicken

TRITC-coupled 1:250 (Jackson ImmunoResearch). Specific PIN2 signal in epidermis, lateral root cap and cortex cells. Cross reaction with another (PIN) protein in the QC and first columella layers in the in the (Men et al. 2008, Nat. Cell Biol. 10, Suppl. Information).

selected references

Willige et al (2011). Gibberellin Regulates PIN-FORMED Abundance and Is Required for Auxin Transport-Dependent Growth and Development in *Arabidopsis thaliana*. *Plant Cell*. (6):2184-95.

Men et al. (2008). Sterol-dependent endocytosis mediates post-cytokinetic acquisition of PIN2 auxin efflux carrier polarity. *Nature Cell Biology*. 10, 237-244.

application example

Specificity testing of affinity-purified chicken anti-AtPIN2 serum.

(a, b) Immunofluorescence labelling of chicken anti-AtPIN2 antibody (red) in an *Arabidopsis* wild-type (Col-0) root tip (a) and a pin2-mutant (pin2-T) root tip (b). DAPI-stained nuclei, blue.

Note specific plasma-membrane labelling of lateral root cap, epidermis and cortical cells is absent in the pin2-T mutant. (c, d) Close-up of (a) and (b), respectively. (e, f) Non-specific signals in the quiescent centre and columella of both Col-0 (e) and pin2-T mutant (f).

