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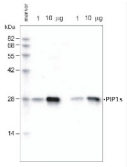
PIP1;1, PIP1;2, PIP1;3, PIP1;4, PIP1;5 | Aquaporins



Qty: AS09 489

AS09 489 | Clonality: **Polyclonal** | Host: **Rabbit** | Reactivity: ***Arabidopsis thaliana, Nicotiana tabacum, Phoenix dactilifera, Raphanus sativus, Zea mays***

Replaced by AS22 4816

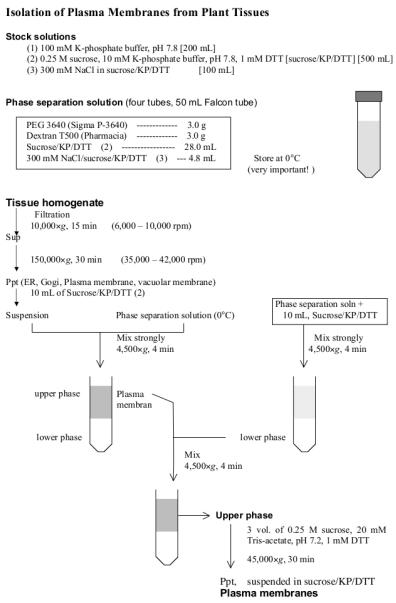
Price:

Agrisera Western Blot protocol and video tutorials

Protocols to work with plant and algal protein extracts

Agrisera Educational Posters Collection

Method for isolation of plant plasma membranes



Courtesy of Dr. Masayoshi Maeshima, Laboratory of Cell Dynamics, Graduate School of Bioagricultural Sciences Nagoya University Nagoya, Japan

- Product Info
- Immunogen:

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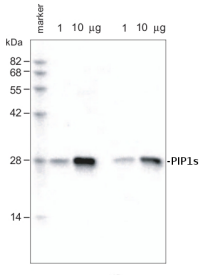
	KLH-conjugated synthetic peptide derived from N terminus of *Raphanus sativus* PAQ1O80368. Chosen peptide is conserved in PIP1;1, PIP1;2, PIP1;3 N-terminus of *Raphanus sativus* and in all 5 isoforms of *Arabidopsis thaliana* coded by:AT3G61430.1 (PIP1;1), AT2G45960.3 (PIP1;2), AT1G01620.1 (PIP1;3), AT4G00430.1 (PIP1;4), AT4G23400.1 (PIP1;5)
Host:	Rabbit
Clonality:	Polyclonal
Purity:	Serum
Format:	Lyophilized
Quantity:	100 µl
Reconstitution:	For reconstitution add 100 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 the tubes briefly prior to opening them to avoid any losses that might occur from material adhering to the cap or sides of the tube. For long time storage over 1 year please dilute the antibody solution 10 fold with 10 mM Tris-buffered saline containing 10% glycerol. Glycerol may suppress denaturation of the protein.
Tested applications:	ELISA (ELISA), Western blot (WB)
Recommended dilution:	1 : 8000 (ELISA), 1 : 1000 (WB)
Expected | apparent MW:	30.66 | 28 kDa (*Raphanus sativus*)

- Reactivity
- Confirmed reactivity: *Arabidopsis thaliana, Nicotiana tabacum, Phoenix dactilifera, Raphanus sativus, Zea mays*
- Predicted reactivity: *Lupinus sp. , Hordeum vulgare, Solanu lycopersicum, Ricinus communis, Oryza sativa, Populus trichocarpa*
  Species of your interest not listed? Contact us
- Not reactive in: No confirmed exceptions from predicted reactivity are currently known
- Application Examples
-

Application example



1 µg and 10 µg of crude membrane fraction/lane from *Arabidopsis thaliana* were separated on 12 % **SDS-PAGE** and blotted 1h to **PVDF membrane** (40 min. at 10 V using BioRad semidry transfer). Filters were blocked 1h with 5 % low-fat **milk powder** in TBS-T (0.05% Triton X.100). Membranes were washed 5 times with TBS-T, each time in a fresh polystyrene box and probed with anti-PIP1s ntibodies (diluted in 1: 500 (left panel) and 1: 1000 (right panel), AS09 489, and secondary anti-rabbit (**1:2000,** 1 h). All steps were performed in RT with agitation.

Application examples:

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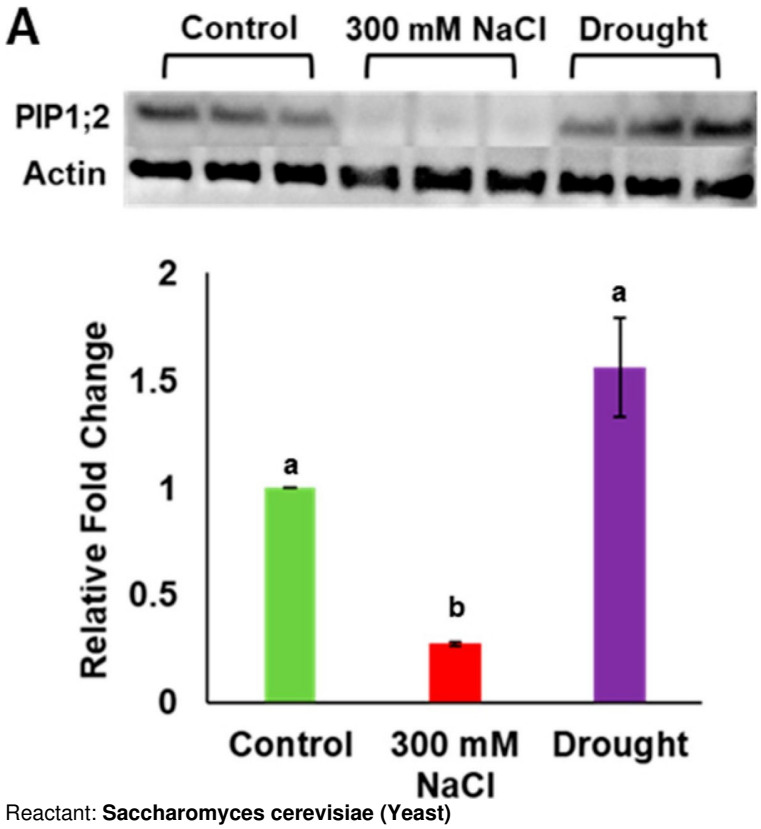

Reactant: **Saccharomyces cerevisiae (Yeast)**

Application: **Western Blotting**

Pudmed ID: **31121945**

Journal: **Genes (Basel)**

Figure Number: **4A**

Published Date: **2019-05-22**

First Author: **Patankar, H. V., Al-Harrasi, I., et al.**

Impact Factor: **3.886**

Open Publication

Analysis of PdPIP1;2 protein expression in leaf and root tissues under drought and salinity conditions. Protein immunoblot image showing the levels of PdPIP1;2 protein accumulation in leaves (A) and roots (B) of date palm seedlings, grown under control, salinity and drought conditions of three biological replicates. The bar graph shows the mean of the relative fold change of accumulation (± SE, n = 3) in salinity and drought stress, compared to control conditions. Asterisks indicate a significant difference at $p < 0.05$.

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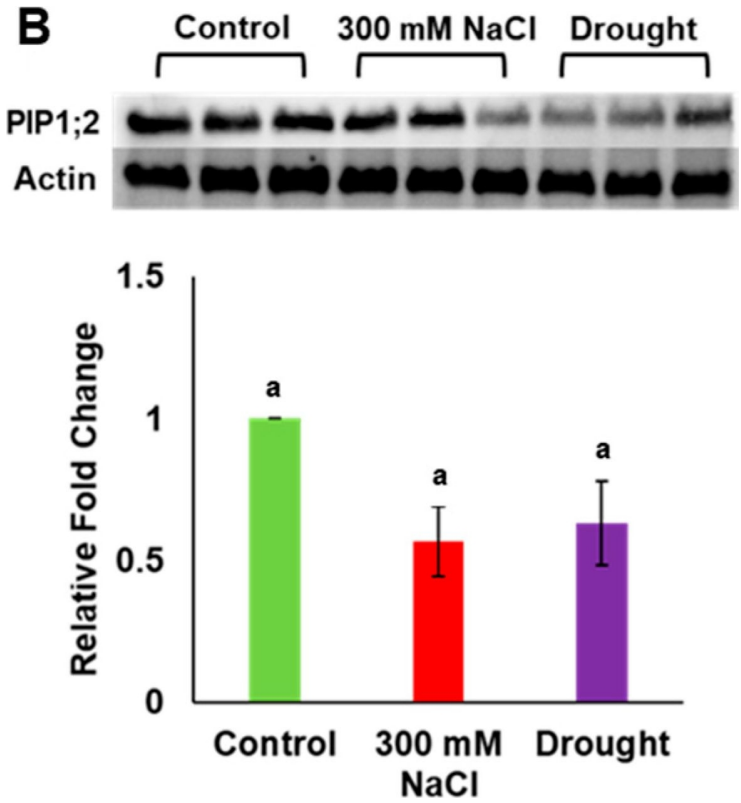

Reactant: **Saccharomyces cerevisiae (Yeast)**

Application: **Western Blotting**

Pudmed ID: **31121945**

Journal: **Genes (Basel)**

Figure Number: **4B**

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- Additional Information
-

0.1 % sodium azide is added as preservative. For antibody re-suspending information check the tube lable.

Additional information:

Antibodies will detect target protein in a few µg of a crude preparation loaded per well. If purified preparations of vacuolar and plasma membranes are used, one µg load per well should be sufficient. PIP1;1-PIP1;5 isoforms can be detected in most tissues.
Protein or membrane sample should be treated at 70°C for 10 min before loading on the gel.

Additional information (application):

Diluted antibody solution can be used 2 to 3 times within one month if it contains 0.1 % sodium azide as preservative and is stored at -20ºC to -80ºC.

Antibody reacts also with PIP2 isoforms in *Zea mays*.

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- Background
- Background: **PIPs** proteins are aquaporins which facilitate the transport of water and small neutral molecules across cell membrane. PIP1;2 is also designated as PIP1B.
- Product Citations
- Selected references:

Patankar et al. (2019). Functional Characterization of Date Palm Aquaporin Gene PdPIP1;2 Confers Drought and Salinity Tolerance to Yeast and Arabidopsis. Genes (Basel). 2019 May 22;10(5). pii: E390. doi: 10.3390/genes10050390.

Fernández-San Millán et al. (2018). Physiological Performance of Transplastomic Tobacco Plants Overexpressing Aquaporin AQP1 into Chloroplast Membranes. J Exp. Bot. ery148, https://doi.org/10.1093/jxb/ery148.

Pengelly et al. (2014). Transplastomic integration of a cyanobacterial bicarbonate transporter into tobacco chloroplasts. J Exp. Botany, doi:10.1093/jxb/eru156.