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Product no AS08 325

Anti-ARF1 | ADP-ribosylation factor 1

Product information

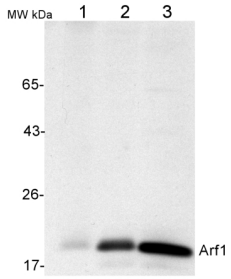
Immunogen	Recombinant GST fusion of full length of *Arabidopsis thaliana* ARF1 (P36397, AT2G47170)
Host	Rabbit
Clonality	Polyclonal
Purity	Serum
Format	Lyophilized
Quantity	50 µl
Reconstitution	For reconstitution add 50 µl of sterile water
Storage	Store lyophilized/reconstituted at -20°C; once reconstituted make aliquots to avoid repeated freeze-thaw cycles. Please remember to spin 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.
Additional information	Cellular [compartment marker] of Golgi in immunolocalization and COP1 in western blot

Application information

Recommended dilution	1 : 1000 (IF), 1 : 100 (IG), 1 : 1000 (WB)
Expected | apparent MW	21 kDa (*Arabidopsis thaliana*)
Confirmed reactivity	*Actinidia chinensis, Arabidopsis thaliana, Chlamydomonas reinhardtii, Elaeis sp. , Lilium longiflorum, Medicago truncatula, Nicotiana tabacum, Oryza sativa, Petunia hybrida* cv Mitchell, *Physcomitrium patens, Solanum tuberosum*
Predicted reactivity	*Brassica juncea, Brassica napus, Capsella rubella, Capsicum annum, Cucumis sp., Daucus carota, Elaeis guineensis, Glycine max, Helleborus orientalis, Hordeum vulgare, Medicago truncatula, Nannochloropsis gaditana, Nicotiana benthamina, Ostreococcus tauri, Populus trichocarpa, Triticum aestivum, Zea mays* Species of your interest not listed? Contact us
Not reactive in	*Centella asiatica, Microsporidia* sp.
Additional information	**References describing immunolocalization (IF) and (IG) studies:** Pimpl et al (2000). In Situ Localization and in Vitro Induction of Plant COPI-Coated Vesicles. Plant Cell. 2000 Nov;12(11):2219-36. Ritzenthaler et al. (2002). Reevaluation of the Effects of Brefeldin A on Plant Cells Using Tobacco Bright Yellow 2 Cells Expressing Golgi-Targeted Green Fluorescent Protein and COPI Antisera. Plant Cell. 2002 Jan;14(1):237-61.
Selected references	Mohr et al. (2024). Characterization of the small Arabidopsis thaliana GTPase and ADP-ribosylation factor-like 2 protein TITAN. J Cell Sci . 2024 Aug 14;137(15):jcs262315. doi: 10.1242/jcs.262315. (immunofluorescence) Suanno et al. (2023) Small extracellular vesicles released from germinated kiwi pollen (pollensomes) present characteristics similar to mammalian exosomes and carry a plant homolog of ALIX, Front. Plant Sci., 25 January 2023, Sec. Plant Membrane Traffic and Transport, Volume 14 - 2023. Chien et al. (2022) Phosphate transporter PHT1;1 is a key determinant of phosphorus acquisition in Arabidopsis natural accessions. Plant Physiol. 2022 Aug 29;190(1):682-697. doi: 10.1093/plphys/kiac250. PMID: 35639954; PMCID: PMC9434223. (Immunogold). Brumm, Singh, Kriechbaum, et al. (2022) N-terminal domain of ARF-GEF GNOM prevents heterodimerization with functionally divergent GNL1 in Arabidopsis. Plant J. 2022;112(3):772-785. doi:10.1111/tpj.15979. Farago et al. (2022) Small paraquat resistance proteins modulate paraquat and ABA responses and confer drought tolerance to overexpressing Arabidopsis plants. Plant Cell Environ. 2022 Jul;45(7):1985-2003. doi: 10.1111/pce.14338. Epub 2022 Apr 29. PMID: 35486392; PMCID: PMC9324991. Narasimhan et al. (2021) Systematic analysis of specific and nonspecific auxin effects on endocytosis and trafficking. Plant Physiol. 2021 Mar 18:kiab134. doi: 10.1093/plphys/kiab134. Epub ahead of print. PMID: 33734402. Hurny et al. (2020). SYNERGISTIC ON AUXIN AND CYTOKININ 1 Positively Regulates Growth and Attenuates Soil Pathogen Resistance. Nat Commun. 2020 May 1;11(1):2170. doi: 10.1038/s41467-020-15895-5. (immunolocalization) Kuang et al. (2019). Quantitative Proteome Analysis Reveals Changes in the Protein Landscape During Grape Berry Development With a Focus on Vacuolar Transport Proteins. Front Plant Sci. 2019 May 15;10:641. doi: 10.3389/fpls.2019.00641. eCollection 2019. Singh et al. (2018). A single class of ARF GTPase activated by several pathway-specific ARF-GEFs regulates essential membrane traffic in Arabidopsis. PLoS Genet. 2018 Nov 15;14(11):e1007795. doi: 10.1371/journal.pgen.1007795. Lang et al. (2011).Simultaneous isolation of pure and intact chloroplasts and mitochondria from moss as the basis for

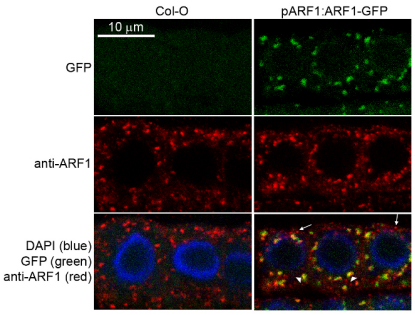
sub-cellular proteomics. Plant Cell Rep. 2011 Feb;30(2):205-15.doi: 10.1007/s00299-010-0935-4.

Application example



50 µg of total protein from (**1**) *Nicotiana tabacum* protoplast total protein, (**2**) *Arabidopsis thaliana* protoplast soluble protein, (**3**) *Arabidopsis thaliana* protoplast total protein were separated on **10 % SDS-PAGE** and blotted 2h to **nitrocellulose** (Semi-dry, 200mA). Filters were blocked over night with 5% low-fat **milk powder** in TBS and probed with anti-Arf1 antibodies (AS08 325, **1:1000**, 1h) and secondary anti-rabbit (**1:20000,** 1 h) antibody (HRP) in TBS-Tween (recommended secondary antibody AS09 602). Signal was detected with chemiluminescence detection reagent and exposure time for this image was 1 minute.

Protoplasts were extracted in 50mM Tris, 10 mM EDTA and Triton X100, 0.02%.



Immunofluorescence

Specificity testing of rabbit anti-ARF1 serum. Immunofluorescence labelling of rabbit anti-ARF1 antibody (red) in 5-day-old root epidermal cells of the *Arabidopsis thaliana* ecotype Columbia-0 (WT) or seedlings expressing the ADP-RIBOSYLATION FACTOR 1 (AtARFA1c; accession At2g47170) fused to EGFP (green) (Xu, J. and Scheres, B. 2005. Plant Cell 17, 525-536). The rabbit anti-ARF1 antibody was diluted 1:1000 and the secondary antibody, donkey anti-rabbit CY5-coupled (Jackson ImmunoResearch) was diluted 1:300. The nuclei were stained with DAPI (blue). Note the co-labelling of ARF1-GFP with the anti-ARF1 antibody (arrowheads) and the additional labelling (potentially of other ARF1 variants) by the anti-ARF1 antibody (arrows). The antibody staining permeability was limited to the 1-2 outermost layers of the whole-mounted root tips.

Courtesy of Dr. Anna Gustavsson and Dr. Markus Grebe