

Product no **AS13 2640****ACT | Actin (polyclonal)****Product information**

Immunogen	ca. 100 amino acids of recombinant actin conserved more than 80% in <i>Arabidopsis thaliana</i> : actin-1 P0CJ46 AT2G37620 , actin-2 Q96292 AT3G18780 , actin-3 P0CJ47 AT3G53750 , actin-4 P53494 AT5G59370 , actin-5 Q8RYC2 At2g42100 , actin-7 P53492 At5g09810 , actin-8 Q96293 AT1G49240 , actin-11 P53496 , AT3G12110 , actin-12 P53497 AT3G46520
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	Antibody available in 3 various pack sizes: 50, 100 and 150 µl - Please inquire . This product can be sold containing ProClin if requested.

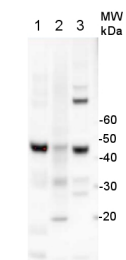
Application information

Recommended dilution	1:100 - 1 : 250 (IF), 1 : 3000-1 : 5000 (WB)
Expected apparent MW	41.6 45 kDa
Confirmed reactivity	<i>Agrostis stolonifera</i> cv. 'Pennncross', <i>Arabidopsis thaliana</i> , <i>Brassica napus</i> , <i>Cucumis sativus</i> , <i>Cyanthobasis fruticulosa</i> , <i>Cynara cardunculus</i> , <i>Fragaria x ananassa</i> , <i>Glycine max</i> , <i>Hordeum vulgare</i> , <i>Nicotiana tabacum</i> , <i>Odontarrhena lesbiaca</i> , <i>Petrosimonia nigdeensis</i> , <i>Phaseolus vulgaris</i> , <i>Phaeodactylum tricornutum</i> , <i>Phoenix dactylifera</i> , <i>Picrorhiza kurroa</i> , <i>Salsola grandis</i> , <i>Salsola tragus</i> , <i>Setaria italica</i> , <i>Solanum tuberosum</i> , <i>Triticum aestivum</i> , <i>Vigna unguiculata</i> , <i>Zea mays</i>
Predicted reactivity	<i>Agropyron cristatum</i> , <i>Beta vulgaris</i> , <i>Betula luminifera</i> , <i>Brassica rapa subsp. pekinensis</i> , <i>Daucus carota</i> , <i>Cannabis sativa</i> L., <i>Capsella rubella</i> , <i>Castanea sativa</i> , <i>Chorisporea bungeana</i> , <i>Cyanidioschyzon merolae strain 10D</i> , <i>Glycine soja</i> , <i>Halogeton glomeratus</i> , <i>Helianthus annuus</i> , <i>Ipomoea batatas</i> , <i>Manihot esculenta</i> , <i>Medicago truncatula</i> , <i>Malus domestica</i> , <i>Oryza sativa</i> , <i>Pisum sativum</i> , <i>Populus sp.</i> , <i>Saccharum officinarum</i> , <i>Solanum lycopersicum</i> , <i>Solanum tuberosum</i> , <i>Phaeodactylum tricornutum</i> , <i>Picea abies</i> , <i>Picea sitchensis</i> , <i>Prunus avium</i> , <i>Olea europaea</i> , <i>Ricinus communis</i> , <i>Rubus plicatus</i> , <i>Theobroma cacao</i> , <i>Trebouxia sp.</i> , <i>Vicia faba</i> Species of your interest not listed? Contact us
Not reactive in	<i>Chlamydomonas reinhardtii</i> (too high background for this species)
Selected references	Gong et al. (2024) . HYPK controls stability and catalytic activity of the N-terminal acetyltransferase A in <i>Arabidopsis thaliana</i> . Cell Rep. 2024 Feb 15;43(2):113768. doi: 10.1016/j.celrep.2024.113768. Llamas et al. (2023) . In planta expression of human polyQ-expanded huntingtin fragment reveals mechanisms to prevent disease-related protein aggregation. Nat Aging. 2023 Nov;3(11):1345-1357. doi: 10.1038/s43587-023-00502-1. Oláh et al. (2023) . Suboptimal zinc supply affects the S-nitrosoglutathione reductase enzyme and nitric oxide signaling in <i>Arabidopsis</i> . Plant Stress Volume 10, December 2023, 100250. Ji et al. (2023) . Evolution of a plant growth-regulatory protein interaction specificity. Nat Plants. 2023 Dec;9(12):2059-2070. doi: 10.1038/s41477-023-01556-0. Kondak et al. (2023) . Nickel oxide nanoparticles induce cell wall modifications, root anatomical changes, and nitrosative signaling in ecotypes of Ni hyperaccumulator <i>Odontarrhena lesbiaca</i> . Environ Pollut. 2023 Nov 8;341:122874. doi: 10.1016/j.envpol.2023.122874. Wang et al. (2023) . LHCF15 facilitates the absorption of longer wavelength light and promotes growth of <i>Phaeodactylum tricornutum</i> under red light. Algal Research Volume 75, September 2023, 103249. Czernicka et al. (2022) . Proteomic Studies of Roots in Hypoxia-Sensitive and -Tolerant Tomato Accessions Reveal Candidate Proteins Associated with Stress Priming. Cells. 2022 Jan 31;11(3):500. doi: 10.3390/cells11030500. PMID: 35159309; PMCID: PMC8834170. Kumari et al. (2021) In-depth assembly of organ and development dissected <i>Picrorhiza kurroa</i> proteome map using mass spectrometry. BMC Plant Biol. 2021 Dec 22;21(1):604. doi: 10.1186/s12870-021-03394-8. PMID: 34937558; PMCID: PMC8693493. Mishra, Sahu & Shaw (2021) . Insight into the cellular and physiological regulatory modulations of Class-I TCP9 to

enhance drought and salinity stress tolerance in cowpea. *Physiol Plant*. 2021 Aug 30. doi: 10.1111/ppl.13542. Epub ahead of print. PMID: 34459503.

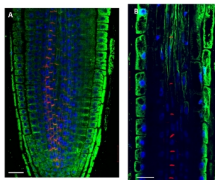
[Zhuang](#) et al (2021). EGY3 mediates chloroplastic ROS homeostasis and promotes retrograde signaling in response to salt stress in *Arabidopsis*. *Cell Rep*. 2021 Jul 13;36(2):109384. doi: 10.1016/j.celrep.2021.109384. PMID: 34260941.

Application example



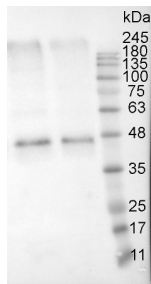
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15 µg of total protein extracted with PEB ([AS08 300](#)) from leaf tissue of (1) *Arabidopsis thaliana*, (2) *Hordeum vulgare*, (3) *Zea mays* were separated on **4-12% NuPage** (Invitrogen) **LDS-PAGE** and blotted 1h to **PVDF**. Filters were blocked 1h with 2% low-fat **milk powder** in TBS-T (0.1% TWEEN 20) and probed with **anti-actin** (AS13 2640, **1:2500**, 1h) and secondary anti-rabbit (**1:10 000**, 1 h) antibody (HRP conjugated, recommended secondary antibody [AS09 602](#)) in TBS-T containing 2% low fat milk powder. Antibody incubations were followed by washings in TBS-T (15, +5, +5, +5 min). All steps were performed at RT with agitation. Signal was detected with chemiluminescent detection reagent using a Fuji LAS-3000 CCD (300s, standard sensitivity). Exposure time was 2 min.



Actin cytoskeleton in 5 days old *Arabidopsis thaliana* seedlings. Actin signal shown in green, PIN1 in red and DAPI in blue. The material has been fixed in 2 % formaldehyde for 45 minutes. Tissue cleaning has been performed before immunolocalization. Rabbit anti-actin primary antibody was diluted in 1:250 and anti-rabbit Alexa 488 and Alexa 555 were both diluted in 1: 500 (Invitrogen). Scale bar - 20 µm.

Courtesy: Dr. Taras Pasternak, Freiburg University, Germany



Proteins were extracted from tuber flesh of Russet Burbank potato (*Solanum tuberosum*) with 0.1 M Tris HCl (pH=8.0), 5% sucrose (m/v), 2% (m/v) SDS, protease inhibitors (PMSF 1mM). Samples were heated 95°C 5 min, and 10 µg of total protein was resolved in 12% SDS PAGE and blotted to PVDF membrane for 1h-1.5h using tank transfer. Blots were blocked with a skimmed milk 4% (m/v) in T-TBS (1.5h) at RT with agitation. Primary antibodies (AS13 2640) were applied overnight +4°C in dilution 1:5000 with agitation. After washing with T-TBS 2-3 times, membrane was incubated with secondary antibodies (Goat Anti-Rabbit HRP conjugate, Transgen biotech HS101) 1:10000 for 1 hour at RT. Blot was washed as above and developed with ECL (Clarity Western ECL Substrate, BioRad, 170-5060) for 5 – 10 minutes. Exposure time – 20.395 seconds.

Courtesy of Iauhenia Isayenka, University of Sherbrooke, Canada