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product **AS13 2640**
ACT | Actin

product information

Background | **Actin** is a highly conserved protein and an essential component of cell cytoskeleton and plays an important role in cytoplasmic streaming, cell shape determination, cell division, organelle movement and extension growth. Preferentially expressed in young and expanding tissues, floral organ primordia, developing seeds and emerging inflorescence.

Immunogen | ca. 100 amino acids of recombinant actin conserved more than 80 % in *Arabidopsis thaliana*: 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 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 | immunofluorescence (IF), Western blot (WB)

Related products | [AS10 702](#) | Anti-Actin-11, monoclonal mouse antibody
[AS10 681](#) | Anti-tubulin beta chain, rabbit antibody
[AS10 680](#) | Anti-tubulin alpha chain, rabbit antibody
[AS16 3140](#) | Actin-2, mouse monoclonal antibody
[AS16 3141](#) | Actin-8, mouse monoclonal antibody
[AS16 3139](#) | Actin-1, monoclonal antibody

[Plant protein extraction buffer](#)

[Secondary antibodies](#)

Additional information | **Antibody available in 3 various pack sizes: 50, 100 and 150 µl - please, [inquire](#).**

Application information

Recommended dilution | 1 : 250 (IF), 1 : 3000-1 : 5000 (WB)

Expected | apparent MW | 41.6 | 45 kDa

Confirmed reactivity | *Agostis stolonifera* cv. 'Penncross', *Arabidopsis thaliana*, *Cynara cardunculus*, *Glycine max*, *Hordeum vulgare*, *Solanum tuberosum*, *Zea mays*

Predicted reactivity | *Agropyron cristatum*, *Beta vulgaris*, *Betula luminifera*, *Brassica napus*, *Brassica rapa* subsp. *pekinensis*, *Capsella rubella*, *Castanea sativa*, *Chorisporea bungeana*, *Cucumis sativus*, *Cyanidioschyzon merolae strain 10D*, *Glycine max*, *Glycine soja*, *Halogeton glomeratus*, *Medicago truncatula*, *Malus domestica*, *Nicotiana tabacum*, *Oryza sativa*, *Pisum sativum*, *Solanum lysopersicum*, *Solanum tuberosum*, *Phaseolus vulgaris*, *Picea abies*, *Picea sitchensis*, *Prunus avium*, *Ricinus communis*, *Rubus plicatus*, *Theobroma cacao*, *Triticum aestivum*, *Vicia faba*

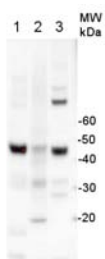
Not reactive in | *Chlamydomonas reinhardtii* (too high background for this species)

Additional information | This product can be sold containing ProClin if requested

Selected references

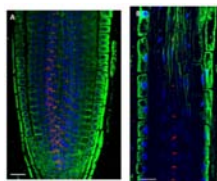
- [Jespersen](#) et al. (2017). Metabolic Effects of Acibenzolar-S-Methyl for Improving Heat or Drought Stress in Creeping Bentgrass. *Front Plant Sci.* 2017 Jul 11;8:1224. doi: 10.3389/fpls.2017.01224. eCollection 2017. (western blot, *Agostis stolonifera* cv. 'Penncross')
- [Qiu](#) et al. (2015). Soy 14-3-3 protein SGF14c, a new regulator of tolerance to salt-alkali stress. *Plant Biotechnology Reports* pp 1-9.
- [Shaw](#) et al. (2015). -aminobutyric acid mediated drought stress alleviation in maize (*Zea mays* L.). *Environ Sci Pollut Res Int.* 2015 Sep 29.
- [Buxa](#) et al. (2015). Phytoplasma infection in tomato is associated with re-organization of plasma membrane, ER stacks, and actin filaments in sieve elements. *ront Plant Sci.* 2015; 6: 650. Published online 2015 Aug 19.
- [Zheng](#) et al. (2014). iTRAQ-based quantitative proteomics analysis revealed alterations of carbohydrate metabolism pathways and mitochondrial proteins in a male sterile cybrid pummelo. *J Proteome Res.* 2014 May 13.

Application example



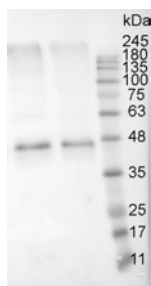
Agrisera 2013

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 ECL Advance (GE Healthcare) 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

This product IS FOR RESEARCH USE ONLY.



Distribuito in ITALIA da

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