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**Product no AS09 501**

# Cat | Catalase (peroxisomal marker)

## Product information

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|---|---|
| **Immunogen** | KLH-conjugated peptide chosen from know plant catalase sequences including *Arabidopsis thaliana* isoforms: catalase-1 (Q96528, At1g20630), catalase-2 (P25819, At4g35090), catalase-3 (Q42547, At1g20620); |
| **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** | This antibody is recognizing all three isoforms of *Arabidopsis thaliana* catalase. Catalase-2 is a main isoform expressed in leaf tissue and localized to peroxisomes.<br>**This antibody contains 0.1 % ProClin.** |

## Application information

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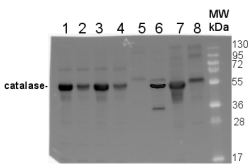
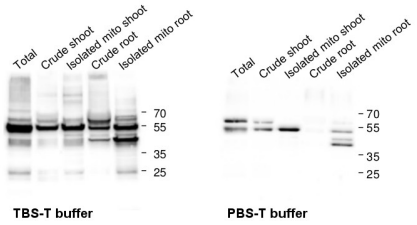
| **Recommended dilution** | 1: 500 (IG), 1: 25 - 1: 500 (IL), 2 µg (IP), 1 : 1000 (WB) |
| **Expected \| apparent MW** | 57 \| 55 kDa |
| **Confirmed reactivity** | Fragaria x ananassa |
| **Predicted reactivity** | *Avicennia marina, Betula pendula, Brachypodium distachyon, Brassica campestris, Brassica napus, Brassica rapa subsp. pekinensis, Citrus sp., Citrus clementina, Citrus maxima, Camellia sinensis, Cucumis sativus, Cucurbita maxima, Cucurbita moschata, Elaeis guineensis var. tenera, Eucalyptus grandis, Glycine max, Gossypium mexicanum, Helianthus annus, Hibiscus cannabinus, Litchi chinensis, Lupinus albus, Manihot esculenta, Marchantia polymorpha, Morus notabilis, Nicotiana tabacum, Paenibacillus sp., Pinus pinea, Populus albaxtremula, Populus jackii, Prunus persica, Raphanus sativus, Saccharum officinarum, Sesamum indicum, Vicia faba*<br><br>Species of your interest not listed? Contact us |
| **Not reactive in** | *Chlamydomonas reinhardtii* |
| **Additional information** | To obtain reactivity with *Solanum lycopersicum* urea gel needs to be apply. Please, contact us for more details.<br><br>To decrease background signal this antibody needs to be incubated in PBS-T NOT TBS-T. For reference, check image in application example below. |
| **Selected references** | Tokarz et al. (2021). Stem Photosynthesis-A Key Element of Grass Pea (Lathyrus sativus L.) Acclimatisation to Salinity. Int J Mol Sci. 2021 Jan 12;22(2):685. doi: 10.3390/ijms22020685. PMID: 33445673; PMCID: PMC7828162.<br>Li et al. (2021) Isolation and comparative proteomic analysis of mitochondria from the pulp of ripening citrus fruit. Hortic Res. 2021 Feb 1;8(1):31. doi: 10.1038/s41438-021-00470-w. PMID: 33518707; PMCID: PMC7848011.<br>Wilmowicz et al (2021) EPIP-Evoked Modifications of Redox, Lipid, and Pectin Homeostasis in the Abscission Zone of Lupine Flowers. International Journal of Molecular Sciences. 2021; 22(6):3001. https://doi.org/10.3390/ijms22063001<br>Bapatla et al. (2021). Modulation of Photorespiratory Enzymes by Oxidative and Photo-Oxidative Stress Induced by Menadione in Leaves of Pea (Pisum sativum). Plants 10, no. 5: 987. https://doi.org/10.3390/plants10050987<br>Adamiec et al. (2021). Fatty acid composition and cpDNA content in Arabidopsis thaliana mutants deprived of EGY1 protease. PHOTOSYNTHETICA 59 (4): 633-639, 2021, DOI 10.32615/ps.2021.053 |

**Application example**



10 µg of total protein from *Arabidopsis thaliana* Col0 **(1)**, Cat2-(Col0) **(2)**, Ler0 **(3)**, Cat2-(Ler0) **(4)**, *Zea mays* **(5)**, *Oryza sativa* **(6)**, *Brassica oleracea* **(7)**, *Nicotiana bentamina* **(8)** were extracted with 60mM Tris pH 6.9, 10mM DTT, 20% glycerol, 1mm PMSF were separated on 12.5% SDS-PAGE and blotted 1h to PVDF. Blot was blocked with 3% skim milk in PBS+0.05% Tween20 for 1h at room temperature (RT) with agitation. Blot was incubated in the primary antibody at a dilution of 1: 1 000 for 1h at RT with agitation in the same buffer. The antibody solution was decanted and the blot was rinsed briefly three times, then washed 3 times for 5 min in PBS-T at RT with agitation. Blot was incubated in secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated, Agrisera, AS09 602) diluted to 1:50 000 in 3% skim milk in PBS+0.05% Tween20 for 1h at RT with agitation. The blot was washed as above and developed for 1 min with Western Lightning Plus-ECL ( PerkinElmer )according to the manufacturers instructions. Exposure time was 5min. in ChemiDoc XRS+ (Biorad ).

Courtesy of Brigitte van de Cotte, Gent University, Belgium




Blots were performed from 10 µg of protein from total extracts, crude extracts as well as from isolated tagged-mitochondria (leaves or roots). *Arabidopsis thaliana* protein extracts were prepared using a protein extraction buffer (100 mM Tris-HCl pH 7.5, 50 mM EDTA, 250 mM NaCl, 0.05% SDS). Samples were denatured with Laemmli buffer (Bio-Rad) supplemented with 10% -mercaptoethanol at 95°C for 10 min before separating the protein mixtures on reducing 12% polyacrylamide gel. Protein extracts were blotted 1h onto a 0.45 µm nitrocellulose membrane using wet transfer. Blots were blocked with 5% milk for 1h/RT with agitation. Blots were incubated with the primary antibodies anti-catalase (Agrisera, AS09 501) at a dilution of 1: 1 000 for ON/4°C with agitation in TBS-T or PBS-T + 2% milk, respectively. Blots were washed 3 times for 5 min in TBS-T or PBS-T at RT with agitation. Blot was incubated for 1h/RT with agitation in Agrisera matching secondary antibodies (anti-rabbit IgG horse radish peroxidase conjugated, AS09 602) diluted to 1:10 000 in TBS-T or PBS-T + 2% milk. Blots were washed 3 times for 5 min in TBS-T or PBS-T following by 3 additional washing steps for 5 min in TBS or PBS. Visualization was carried out using the chemiluminescence kit Agrisera ECLBright; AS16 ECL-N-100 and signals were detected using Azure c600 Western Blot Imaging system (Azure biosystems). Exposure time was 2-5 min.

Courtesy of Dr Jonathan Przybyla-Toscano, Umeå Plant Science Centre, Sweden