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Product no AS09 501

Cat | Catalase (peroxisomal marker)

Product information

Background	**Catalase** is an enzyme found in most living organisms which is catalazying decomposition of hydrogen peroxide to water and oxygen. In plant cells catalase is found in peroxisomes. This enzyme is involved in photorespiration and symbiotic nitrogen fixation.
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 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	Immunolocalization (IL), Immunoprecipitation (IP), Western blot (WB)
Related products	AS15 2991 | anti-Cat | Catalase (algal), rabbit antibodies AS08 374 | anti-KatG | catalase peroxidase (HPI), cyanobacterial, rabbit antibodies AS09 501PRE | Cat | Catalase (peroxisomal marker), pre-immune serum Plant protein extraction buffer Secondary antibodies
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. **This antibody contains 0.1 % ProClin.**

Application information

Recommended dilution	1: 500 (IL), 2 µg (IP), 1 : 1000 (WB)
Expected | apparent MW	57 | 55 kDa
Confirmed reactivity	*Arabidopsis thaliana, Aponogeton madagascariensis, Brassica napus, Brassica oleracea, Hordeum vulgare, Lathyrus sativus, Lupinus albus, Lupinus luteus, Moniliophthora perniciosa, Musa acuminate, Musa paradisiaca L., Nicotiana bentamina, Nicotiana tabacum, Oryza sativa, Paulownia tomentosa, Plumbago zeylanica, Setaria italica* L. P. Beauv*, Solanum lycopersicum, Spinacia oleracea, Triticum aestivum, Zea mays, Vitis vinifera*
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, Fragaria ananassa, Glycine max, Gossypium mexicanum, Helianthus annus, Hibiscus cannabinus, Litchi chinensis, Lupinus albus, Manihot esculenta, Morus notabilis, Nicotiana tabacum, Paenibacillus sp., Pinus pinea, Populus jackii, Prunus persica, Raphanus sativus, Saccharum officinarum, Sesamum indicum* Species of your interest not listed? Contact us

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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.

To decrease background signal this antibody needs to be incubated in PBS-T NOT TBS-T. For reference, check image in application example below.

For high resolution images, please visit the specific product page at www.agrisera.com

Selected references

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Dauphinee et al. (2017). Remodelling of lace plant leaves: antioxidants and ROS are key regulators of programmed cell death. Planta. 2017 Apr 7. doi: 10.1007/s00425-017-2683-y. (Aponogeton madagascariensis)
Yin et al. (2016). Comprehensive Mitochondrial Metabolic Shift during the Critical Node of Seed Ageing in Rice. PLoS One. 2016 Apr 28;11(4):e0148013. doi: 10.1371/journal.pone.0148013. eCollection 2016.
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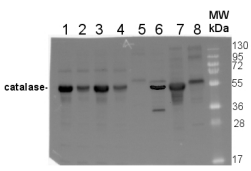
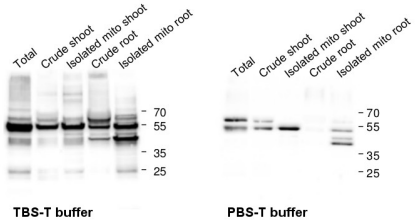
Application example



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