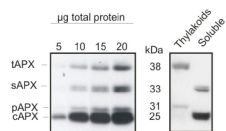


Product no **AS08 368****Anti-APX | L-ascorbate peroxidase****Product information**

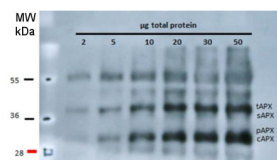
<b>Immunogen</b>	BSA-conjugated synthetic peptide derived from <i>Arabidopsis thaliana</i> tAPX (thylakoidal ascorbate peroxidase) UniProt: <a href="#">Q42593-1</a> , TAIR: <a href="#">At1g77490</a> and sAPX (stromal/mitochondrial ascorbate peroxidase) UniProt: <a href="#">Q42592-1</a> TAIR: <a href="#">At4g08390</a> Five out of twelve amino acids are also identical with cAPX1 ( <a href="#">At1g07890</a> ), cAPX2 ( <a href="#">At3g09640</a> ) and pAPX ( <a href="#">At4g35000</a> )
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Purity</b>	Serum
<b>Format</b>	Lyophilized
<b>Quantity</b>	50 µl
<b>Reconstitution</b>	For reconstitution add 50 µl of sterile water
<b>Storage</b>	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.

**Application information**

<b>Recommended dilution</b>	1 : 2000 (WB)
<b>Expected   apparent MW</b>	25-38 kDa for <i>A. thaliana</i>
<b>Confirmed reactivity</b>	<i>Arabidopsis thaliana</i> , <i>Armeria maritima</i> , <i>Brassica napus</i> , <i>Capsicum annuum</i> , <i>Citrus</i> sp., <i>Digitaria sanguinalis</i> , <i>Dionaea muscipula</i> , <i>Echinochloa crus-galli</i> , <i>Iris pumila</i> , <i>Lathyrus sativus</i> , <i>Liquidambar formosana</i> , <i>Lupin</i> sp., <i>Manihot esculenta</i> , <i>Medicago sativa</i> , <i>Nicotiana tabacum</i> thylakoid-bound APX, stromal APX; <i>Oryza sativa</i> , <i>Panicum milaceum</i> , <i>Plumbago zeylanica</i> , <i>Schima superba</i> , <i>Silene vulgaris</i> , <i>Solanum lycopersicum</i> , <i>Spinacia oleracea</i> (stromal APX, thylakoid-bound), <i>Triticum aestivum</i>
<b>Predicted reactivity</b>	<i>Brassica rapa</i> subsp. <i>oleifera</i> Stromal APX; <i>Glycine max</i> , <i>Glycine soja</i> L-ascorbate peroxidase T, chloroplastic; <i>Medicago truncatula</i> thylakoid-bound APX; <i>Mesembryanthemum crystallinum</i> , <i>Pisum sativum</i> Chloroplast stromal ascorbate peroxidase 12; <i>Solanum lycopersicum</i> thylakoid-bound APX; <i>Spinacia oleracea</i> stromal APX; <i>Theobroma cacao</i> L-APX T isoform 3; <i>Vitis vinifera</i> Species of your interest not listed? <a href="#">Contact us</a>
<b>Not reactive in</b>	Algae, <i>Helianthus annuus</i> , <i>Marchantia polymorpha</i>
<b>Additional information</b>	This product can be sold containing proclin if requested
<b>Selected references</b>	<a href="#">Kolbert</a> et al. (2023). Nitro-oxidative response to internalized multi-walled carbon nanotubes in <i>Brassica napus</i> and <i>Solanum lycopersicum</i> . <i>Ecotoxicol Environ Saf.</i> 2023 Nov 15;267:115633. doi: 10.1016/j.ecoenv.2023.115633. <a href="#">Bismarck</a> et al. (2023). Growth in fluctuating light buffers plants against photorespiratory perturbations. <i>Nat Commun.</i> 2023 Nov 3;14(1):7052. doi: 10.1038/s41467-023-42648-x. <a href="#">Wang</a> et al. (2022) Reciprocity between a retrograde signal and a putative metalloprotease reconfigures plastidial metabolic and structural states. <i>Sci Adv.</i> 2022 Jun 3;8(22):eabo0724. doi: 10.1126/sciadv.abo0724. Epub 2022 Jun 3. PMID: 35658042; PMCID: PMC9166295. <a href="#">Kucko</a> et al. (2022) The acceleration of yellow lupine flower abscission by jasmonates is accompanied by lipid-related events in abscission zone cells, <i>Plant Science</i> , Volume 316, 2022,111173, ISSN 0168-9452, <a href="https://doi.org/10.1016/j.plantsci.2021.111173">https://doi.org/10.1016/j.plantsci.2021.111173</a> . ( <a href="https://www.sciencedirect.com/science/article/pii/S0168945221003691">https://www.sciencedirect.com/science/article/pii/S0168945221003691</a> ) <a href="#">Jedelska</a> et al. (2021) Protein S-nitrosation differentially modulates tomato responses to infection by hemi-biotrophic oomycetes of <i>Phytophthora</i> spp. <i>Hortic Res.</i> 2021 Feb 1;8(1):34. doi: 10.1038/s41438-021-00469-3. PMID: 33518717; PMCID: PMC7848004. <a href="#">Tokarz</a> et al. (2021). Stem Photosynthesis-A Key Element of Grass Pea ( <i>Lathyrus sativus</i> L.) Acclimatisation to Salinity. <i>Int J Mol Sci.</i> 2021 Jan 12;22(2):685. doi: 10.3390/ijms22020685. PMID: 33445673; PMCID: PMC7828162. <a href="#">Tokarz</a> et al. (2020). Can Ceylon Leadwort ( <i>Plumbago zeylanica</i> L.) Acclimate to Lead Toxicity?-Studies of Photosynthetic Apparatus Efficiency. <i>Int J Mol Sci.</i> 2020 Mar 9;21(5):1866. doi: 10.3390/ijms21051866.

**Application example**

**5 to 20 µg of total leaf protein** from *Arabidopsis thaliana* (left panel) and chloroplast fractions (thylakoids and soluble, right panel) was separated on **15% polyacrylamide gel with 6M urea** and blotted on **PVDF**. Filters were blocked 1h with 5% **BSA**, incubated with anti-APX antibody (**1: 2000**, 1h) followed by incubation with secondary HRP-coupled anti rabbit antibody (**1: 10 000**, 1h). Signal was detected with chemiluminescence detection reagent. AS08 368 is reactive to thylakoid (tAPX, 38 kDa), stromal (sAPX, 33 kDa), peroxisomal (pAPX, 31 kDa) and cytoplasmic (cAPX1 + cAPX2, 25 kDa) forms of ascorbate peroxidases.



Total proteins of *Arabidopsis thaliana* leaves were extracted with 10 % TCA and precipitated. The pellet was washed with acetone and resuspended in 100mM Tris-HCl (pH 7.5), 1mM EDTA, 2% (w= v) SDS, 1:100 of protease inhibitor cocktail (Thermo Scientific), 1 mM PMSF. Leaves were also grinded in 100 mM Tris-HCl (pH 7.5), MgCl<sub>2</sub> 10 mM, 1 mM EDTA, 1 mM PMSF, 1/100 of protease inhibitor cocktail and centrifugated. The supernatant (soluble fraction) was separated and the pellet (membrane fraction) was resuspended in the same buffer with 6 M urea and 1% SDS. Different amounts of proteins were separated in 15 % polyacrylamide gel with 6M urea after denaturation (70° C 5 min) and blotted on PVDF. Filters were blocked 1h with 5% BSA, Incubated with anti-APX antibodies at a dilution 1:2000, 1h/RT, washed 4 times with TBS tween (5 min each) and incubated with HRP coupled anti-rabbit IgG secondary antibody in dilution 1:10 000 1h/RT ([AS09 602](#), Agrisera). After incubation with secondary antibody, the filter was washed 4 times with TBS (5 min each) and signal was detected with chemiluminescent detection reagent (30 secs exposition in film).

Courtesy Manuel Guinea Diaz, University of Turku, Finland