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Product no AS08 368

APX | L-ascorbate peroxidase

Product information

Immunogen	BSA-conjugated synthetic peptide derived from *Arabidopsis thaliana* tAPX (thylakoidal ascorbate peroxidase) UniProt: Q42593-1, TAIR:At1g77490 and sAPX (stromal/mitochondrial ascorbate peroxidase) UniProt: Q42592-1 TAIR: At4g08390 Five out of twelve amino acids are also identical with cAPX1 (At1g07890), cAPX2 (At3g09640) and pAPX (At4g35000)
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.

Application information

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

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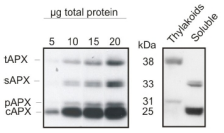
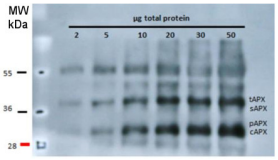
Application example



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), MgCl2 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