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Product no AS06 172

PsaA | PSI-A core protein of photosystem I

Product information

Immunogen	N-terminal part of recombinant PsaA protein from *Chlamydomonas reinhardtii* P12154
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	PsaA is a hydrophobic protein and we recommend to use PVDF membrane for transfer to assure best results. This product can be sold containing ProClin if requested.

Application information

Recommended dilution	1 : 20 (IG), 1 : 1000-1 : 5000 (WB)
Expected | apparent MW	82 | 55-60 kDa
Confirmed reactivity	*Arabidopsis thaliana, Begonia* sp. *, Bryopsis corticulans, Chlamydomonas reinhardtii, psychrophilic Chlamydomonas* sp. UWO241 *and Chlamydomonas sp.* ICE-MDV, *Chlorella sorokiniana, Chlorella vulgaris, Chromochloris zofingiensis, Colobanthus quitensis Kunt Bartl, Craterostigma pumilum, Cytisus cantabricus* (Wilk.) Rchb. F.*, Dianthus caryophyllus, Dioxoniella giordanoi* (red alga), *Drosera capensis, Euonymus japonicus, Fraxinus ornus, Fucus vesiculosus, Haematococcus pluvialis, Halomicronema hongdechloris, Hieracium pilosella L., Hordeum vulgare, Lasallia hispanica, Nannochloropsis oceanica* strain IMET1*, Nicotiana benthamiana, Nicotiana tabacum, Oryza sativa, Pisum sativum, Marchantia polymorpha* (liverwort), *micro Nannochloropsis gaditana, Phaseolus vulgaris, Physcomitrium patens, Picea abies, Pinus strobus, Sinapsis alba, Spinacia oleracea, Synechococcus* PCC 7942*, Synechocystis PCC* 6803*, Syntrichia muralis* (Hedw.) *Raab, Scenedesmus obliquus, Tillandsia flabellate, Ulva prolifera*
Predicted reactivity	Algae, *Bigelowiella natans*, *Cannabis sativa*, *Catalpa bungei, Citrus* x limon, Cyanobacteria*, Cyanidioschyzon merolae strain 10D, Galdieria sulphuraria, Lycopersicum esculentum, Panax ginseng, Picea spinulosa, Pinus thunbergii, Phaeodactylum tricornutum, Populus alba, Thermosynechococcus elongatus* (strain BP-1)*, Triticum aestivum* Species of your interest not listed? Contact us
Not reactive in	*Chromera velia*
Additional information	Immunogold localization has been done in leaf material of *Arabidopsis thaliana.*
Selected references	Kim et al. (2024).Photoautotrophic cultivation of a Chlamydomonas reinhardtii mutant with zeaxanthin as the sole xanthophyll. Biotechnol Biofuels Bioprod. 2024 Mar 14;17(1):41. doi: 10.1186/s13068-024-02483-8. Okegawa et al. (2023). x- and y-type thioredoxins maintain redox homeostasis on photosystem I acceptor side under fluctuating light. Plant Physiol. 2023 Nov 22;193(4):2498-2512.doi: 10.1093/plphys/kiad466. Sulli et al. (2023). Generation and physiological characterization of genome edited Nicotiana benthamiana plants containing zeaxanthin as the only leaf xanthophyll. Planta . 2023 Oct 5;258(5):93. doi: 10.1007/s00425-023-04248-3. Jiang et al. (2023). Toxic effects of lanthanum (III) on photosynthetic performance of rice seedlings: Combined chlorophyll fluorescence, chloroplast structure and thylakoid membrane protein assessment. Ecotoxicol Environ Saf. 2023 Nov 15:267:115627.doi: 10.1016/j.ecoenv.2023.115627. Kafri et al. (2023). Systematic identification and characterization of genes in the regulation and biogenesis of photosynthetic machinery. Cell. 2023 Dec 7;186(25):5638-5655.e25.doi: 10.1016/j.cell.2023.11.007. Nagy et al. (2023). Photoautotrophic and sustained H2 production by the pgr5 mutant of Chlamydomonas reinhardtii in simulated daily light conditions. International Journal of Hydrogen Energy Volume 53, 31 January 2024, Pages 760-769. Hu et al. (2023). Drought affects both photosystems in Arabidopsis thaliana. New Phytol. 2023 Oct;240(2):663-675. doi: 10.1111/nph.19171. Epub 2023 Aug 2. Ivanov et al. (2022) The decreased PG content of pgp1 inhibits PSI photochemistry and limits reaction center and light-harvesting polypeptide accumulation in response to cold acclimation. Planta 255, 36 (2022). https://doi.org/10.1007/s00425-022-03819-0 Lim et al (2022). Arabidopsis guard cell chloroplasts import cytosolic ATP for starch turnover and stomatal opening. Nat Commun. 2022 Feb 3;13(1):652. doi: 10.1038/s41467-022-28263-2. PMID: 35115512; PMCID: PMC8814037.

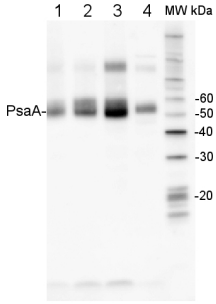
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Lim et al (2022) Arabidopsis guard cell chloroplasts import cytosolic ATP for starch turnover and stomatal opening. Nat Commun. 2022 Feb 3;13(1):652. doi: 10.1038/s41467-022-28263-2. PMID: 35115512; PMCID: PMC8814037.
Spaniol et al. (2022) Complexome profiling on the Chlamydomonas lpa2 mutant reveals insights into PSII biogenesis and new PSII associated proteins, Journal of Experimental Botany, Volume 73, Issue 1, 5 January 2022, Pages 245–262
Rogowski et al. (2021) Light as a substrate: migration of LHCII antennas in extended Michaelis-Menten model for PSI kinetics. J Photochem Photobiol B. 2021 Dec;225:112336. doi: 10.1016/j.jphotobiol.2021.112336. Epub 2021 Oct 19. PMID: 34736069.

Application example



2 µg of total protein from **(1)** *Arabidopsis thaliana* leaf, **(2)** *Hordeum vulgare* leaf, **(3)** *Chlamydomonas reinhardtii* total cell, (**4**) *Synechococcus* sp. 7942 total cell all extracted with Protein Extration Buffer, PEB (AS08 300), were separated on **4-12%** NuPage (Invitrogen) **LDS-PAGE** and blotted 1h to **PVDF**. Blots were blocked immediately following transfer in 2% blocking reagent in 20 mM Tris, 137 mM sodium chloride pH 7.6 with 0.1% (v/v) Tween-20 (TBS-T) for 1h at room temperature with agitation. Blots were incubated in the primary antibody at a dilution of 1: 10 000 for 1h at room temperature with agitation. The antibody solution was decanted and the blot was rinsed briefly twice, then washed once for 15 min and 3 times for 5 min in TBS-T at room temperature with agitation. Blots were incubated in secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated, frecommended secondary antibody AS09 602) diluted to 1:50 000 in 2% blocking solution for 1h at room temperature with agitation. The blots were washed as above and developed for 5 min with chemiluminescence detection reagent according the manufacturers instructions. Images of the blots were obtained using a CCD imager (FluorSMax, Bio-Rad) and Quantity One software (Bio-Rad). Exposure time was 10 seconds.