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Product no AS10 939

Anti-PsaC | PSI-C core subunit of photosystem I

Product information

Immunogen	KLH-conjugated synthetic peptide conserved in all known PsaC proteins including *Arabidopsis thaliana* Uniprot:P62090 TAIR: AtCg01060, *Hordeum vulgare* UniProt: P69416, *Oryza sativa* UniProt: P0C360, *Chlamydomonas reinhardtii* UniProt: Q00914, *Synechococcus elongatus* UniProt: Q31QV2
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	Peptide target used to elicit this antibody is well conserved in all photoautotrophs except some cyanobacteria, some red algae and *Cyanophora paradoxa*, which contain a conserved substitution of a valine to an isoleucine. The performance of the antibodies has been confirmed against taxa containing both the valine and isoleucine variants. **Example of a simulataneous western blot detection with RbcL, PsbA and PsaC antibodies.** More information about quantitative western blot using PsaC antibody can be found here.

Application information

Recommended dilution	1 : 5000 (WB)
Expected | apparent MW	9 kDa
Confirmed reactivity	*Arabidopsis thaliana, Chlamydomonas reinhardtii, Cyanophora paradoxa, Dactylis glomeRata, Emiliania huxleyi, Euglena gracilis, Gonyaulax polyedra, Horderum vulgare, Lolium perenne, Marchantia polymorpha, Mesembryanthemum sp., Spinacia oleracea, Flaveria sp., Heterosigma akashiwo,Micromonas pusilla, Phaeodactylum tricornutum, Porphyra sp., symbiotic dinoflagellates of Stylophora pistillata and Turbinaria reniformis; Synechococcus* sp.PCC7002, sp. PCC 7942*, Synechocystis sp.* PCC 6803*, Thalassiosira pseudonana, Thalassiosira punctigera, Trichodesmium erythraeum, Triticum aestivum*
Predicted reactivity	Algae, *Cannabis sativa*, *Chromera velia, Cyanobacteria, Brassica napus, Glycine max, Manihot esculenta, Nannochloropsis sp., Nicotiana benthamiana, Nicotiana tabacum, Physcomitrium patens, Prochlorococcus sp.* (surface and a deep water ecotype), *Spinacia oleracea, Synechococcus* PCC 8801, *Thermosynechococcus elongatus* (BP-1) Species of your interest not listed? Contact us
Not reactive in	No confirmed exceptions from predicted reactivity are currently known
Additional information	In some species minor cross reactions with some larger proteins are seen. These may contain related iron-sulfur binding motifs. Therefore size verification of the reacting band is required. Due to the small size of the protein, care should be taken to differentiate between chemiluminescent signal from PsaC and non-specific signals from chlotophylls or lipids if pigment is retained near the bottom of the blot. For the most optimal results use:thylakoid membranes or PSI particles, solubilized in a SDS sample buffer (final concentrations: 63 mM Tris HCl, 10% glycerol, 2% SDS, 0.0025% bromophenol blue) with 2.5% beta-mercaptoethanol at 85C for 2 minutes. The samples were spun softly, then the supernatant loaded. This product can be sold containing ProClin if requested.
Selected references	Xie et al, (2024). LpY3IP1 Enhances the drought and salt tolerance of perennial ryegrass by protecting the photosynthetic apparatus. Scientia Horticulturae Volume 338, 1 December 2024, 113645. Hani and Krieger-Liszkay (2024). Manganese deficiency alters photosynthetic electron transport in Marchantia polymorpha. Elsevier Plant Physiology and Biochemistry Available online 16 August 2024, 109042. Frangedakis et al. (2024). MYB-related transcription factors control chloroplast biogenesis. Cell: DOI:https://doi.org/10.1016/j.cell.2024.06.039. Rredhi et al. (2023). The UV-A Receptor CRY-DASH1 Up- and Downregulates Proteins Involved in Different Plastidial Pathways. J Mol Biol. 2023 Sep 10:168271.doi: 10.1016/j.jmb.2023.168271. Burlacot et al. (2022) Alternative photosynthesis pathways drive the algal CO2-concentrating mechanism. Nature 605,

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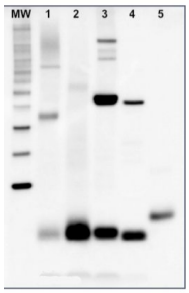

5 µg of total protein from samples such as **(1)** *Arabidopsis thaliana* leaf, **(2)** *Hordeum vulgare* leaf, **(3)** *Chlamydomonas reinhardtii* total cell, **(4)** *Synechococcus* sp. 7942 total cell, **(5)** PsaC protein standard (AS04 042S), total protein from all the samples were extracted with Agrisera Protein Extraction Buffer PEB (AS08 300). Samples were diluted with 1X sample buffer (NuPAGE LDS sample buffer (Invitrogen) supplemented with 50 mM DTT and heat at 70°C for 5 min and kept on ice before loading. Protein samples were separated on NuPAGE 4-12% Tris-Bis gel (Invitrogen) LDS-PAGE and blotted for 1h to 1.5h on PVDF using tank transfer. Blots were blocked immediately following transfer in 2% blocking reagent for 1h at RT with agitation. Blots were incubated with PsaC antibody at a dilution of 1: 10 000 (in blocking reagent) for 1h at RT with agitation. The antibody solution was decanted and the blot was rinsed briefly twice, and then washed 1x15 min and 3x5 min with TBS-T at RT with agitation. Blots were incubated in secondary antibody (anti-rabbit IgG HRP conjugated, AS09 602) diluted to 1:50 000 in blocking reagent for 1h at RT with agitation. The blots were washed as above. The blot was developed for 5 min with chemiluminescence detection reagent in mid picogram range. Images of the blots were obtained using a CCD imager (FluorSMax, Bio-Rad) and Quantity One software (Bio-Rad).