Agrisera
Part of Thermo Fisher Scientific

This product is **for research use only** (not for diagnostic or therapeutic use) **contact: support@agrisera.com**

Agrisera AB | Box 57 | SE-91121 Vännäs | Sweden | +46 (0)935 33 000 | www.agrisera.com

Product no AS06 141

Anti-PC | Plastocyanin

Product information

Immunogen	Purified native plastocyanin from *Spinacia oleracea* UniProt: P00289
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	**Cellular [compartment marker] of chloroplast thylakoid lumen** This product can be sold containing ProClin if requested.

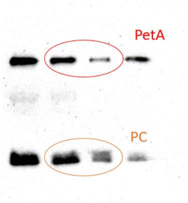
Application information

Recommended dilution	1 : 100 (IG), 1 : 2000 (WB)
Expected | apparent MW	10 kDa
Confirmed reactivity	*Arabidops thaliana, Brassica juncea, Chlamydomonas reinhardtii, Heliantus annuus, Hordeum vulgare, Lathyrus sativus, Marchantia polymorpha, Nicotiana tabacum, Oryza sativa, Pisum sativum, Spinacia oleracea, Solanum tuberosum, Synechocystis sp. PCC6803, Zea mays*
Predicted reactivity	Dicots, *Chlamydomonas reinhardtii, Nicotiana benthamiana, Physcomitrium patens, Ricinus communis, Solanum lycopersicum, Suaeda salsa* Species of your interest not listed? Contact us
Not reactive in	No confirmed exceptions from predicted reactivity are currently known
Additional information	Plastocyanin runs abberant due to negative charge at 12-19 kDa on SDS-PAGE depending upon the system used. in 15% gel the protein will run closer to its true MW than in 12% gel. In some cases PC can be very acidic and run at twice of its MW. PC1 runs closer to 14 kDa while PC2 runs closer to 19 kDa. For good resolution adding fresh DTT to the sample buffer is recommended. PC2 is generally more abundant and it increases with Cu feeding. PC1 is expressed first after etiolated seedlings are placed in the light.

Selected references

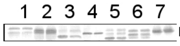
Strandberg and Krieger-Liszkay (2025). Physiol Plant. 2025 Nov-Dec;177(6):e70648.doi: 10.1111/ppl.70648.
Krupinska et al. (2025). Iron allocation to chloroplast proteins depends on the DNA-binding protein WHIRLY1. Planta. 2025 Jun 17;262(2):32. doi: 10.1007/s00425-025-04736-8.
Wu et al. (2025). Plastocyanin affects photosynthesis and high light acclimation by modulating redox states of electron transport chain in Chlamydomonas reinhardtii. Commun Biol . 2025 Mar 21;8(1):476. doi: 10.1038/s42003-025-07904-4.
Collombat et al. (2025). Arabidopsis conditional photosynthesis mutants abc1k1 and var2 accumulate partially processed thylakoid preproteins and are defective in chloroplast biogenesis. Commun Biol . 2025 Jan 22;8(1):111. doi: 10.1038/s42003-025-07497-y.
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.
Penzler et al. (2024). A pgr5 suppressor screen uncovers two distinct suppression mechanisms and links cytochrome b6f complex stability to PGR5. Plant Cell. 2024 Mar 27:koae098. doi: 10.1093/plcell/koae098.
Mu et al. (2024). Plastid HSP90C C-terminal extension region plays a regulatory role in chaperone activity and client binding.Plant J. 2024 Jul 5.doi: 10.1111/tpj.16917.
Lian et al. (2023). MicroRNA397 promotes rice flowering by regulating the photorespiration pathway. Plant Physiol. 2023 Nov 23:kiad626. doi: 10.1093/plphys/kiad626.
Hao and Malnoë (2023). A Simple Sonication Method to Isolate the Chloroplast Lumen in Arabidopsis thaliana.Bio Protoc. 2023 Aug 5; 13(15): e4756.
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.
Viola et al. (2021) In vivo electron donation from plastocyanin and cytochrome c6 to PSI in Synechocystis sp. PCC6803. Biochim Biophys Acta Bioenerg. 2021 May 15;1862(9):148449. doi: 10.1016/j.bbabio.2021.148449. Epub ahead of print. PMID: 34004195.
Furutani et al. (2021) The difficulty of estimating the electron transport rate at photosystem I. J Plant Res. 2021 Nov 15. doi: 10.1007/s10265-021-01357-6. Epub ahead of print. PMID: 34778922.
Wang et al. (2020) Rerouting of ribosomal proteins into splicing in plant organelles. BioRxiv, DOI: 10.1101/2020.03.03.974766 .
Galvis et al. (2020). H+ transport by K+ EXCHANGE ANTIPORTER3 promotes photosynthesis and growth in chloroplast ATP synthase mutants. Plant Physiol. pp.01561.2019. doi: 10.1104/pp.19.01561.



Thylakoid membranes (10 µg of total chlorophyll) extracted freshly from *Hordeum vulgare* leaves with 100 mM HEPES-KOH (pH 7.5), 0.3 M sorbitol, 2 mM EDTA, and 1mM MgCl2 and denatured with a Laemmli buffer at 80°C for 5 min were separated on 12% SDS-PAGE and blotted 1 h to nitrocellulose (pore size of 0.2 um), using semi-dry transfer. Blot was blocked with 4% milk for 2 h/RT with agitation. Blot was incubated in the primary antibody at a dilution of 1:3000 (PC and PetA, simultaneous western blot detection for both antibodies at the same time) for 1 h/RT with agitation in PBS-T. The antibody solution was decanted and the blot was rinsed briefly, then washed 3 times for 5 min in PBS-T at RT with agitation. Blot was incubated in Agrisera matching secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated) diluted to 1:25000 in for 1 h/RT with agitation. The blot was washed as above and developed for 5 min with chemiluminescent detection reagent according to manufactures recommendations. Exposure time was 30 seconds. Simultaneous western blot detection can be applied if MW of detected proteins differs in min. 20 kDa.

Courtesy Dr. Anja Liszkay, CNRS, France



10 µg of total protein from *Arabidopsis thaliana* **(1)**, *Brassica juncea* **(2)**, *Zea mays* **(3)**, *Oryza sativa* **(4)**, *Solamum lycopersicum* **(5)**, *Nicotiana tabacum* **(6)**, *Heliantus annuus* **(7)** were separated on SDS-PAGE and blotted to **nitrocellulose**. Filters were probed with anti-PC antibody (AS06 141, **1:2000**). Signal was developed using alkaline phosphatase conjugated secondary antibody. Each sample was run in duplicate. Signal was developed using alkaline conjugated secondary antibody.

This antibody will also work well with HRP-conjugated secondary antibodies, as AS09 602.