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product AS04 042

PsaC | PSI-C core subunit of photosystem I

product information

background	**PsaC** is a conserved, chloroplast-encoded, Fe-S binding protein of approximately 10kDa, present in all known Photosystem I complexes. It is located on the stromal side of the thylacoid membranes. PsaC coordinates the Fe–S clusters FA and FB through two cysteine-rich domains.
immunogen	KLH-conjugated synthetic peptide conserved in all known PsaC proteins including *Arabidopsis thaliana* (AtCg01060)
antibody format	rabbit polyclonal affinity purified serum in PBS pH 7.4 lyophilized
quantity	100 µl for reconstitution add 100 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 tubes briefly prior to opening them to avoid any losses that might occur from lyophilized material adhering to the cap or sides of the tubes.
tested applications	western blot (WB)
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.

application information

recommended dilution	1: 10 000 with ECL (WB)
expected | apparent MW	9 kDa
confirmed reactivity	*Arabidopsis thaliana, Horderum vulgare, Spinacia oleracea, Synechococcus* PCC 7942, *Cyanophora paradoxa, Heterosigma akashiwo, Thalassiosira pseudonan, Euglena gracilis, Micromonas pusilla, Chlamydomonas reinhardtii, Porphyra sp., Gonyaulax polyedra, Emiliania huxleyi*
predicted reactivity	dicots including *Glycine max, Nicotiana tabacum, Spinacia oleracea*, and monocots, *Physcomitrella patens*, algae and cyanobacteria
not reactive in	no confirmed exceptions from predicted reactivity known in the moment
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

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non-specific signals from chlotophylls or lipids if pigment is retained near the bottom of the blot.

selected references

Ifuku et al. (2005). PsbP protein, but not PsbQ protein, is essential for the regulation and stabilization of photosystem II in higher plants. Plant Physiol. 3:1175-1184. Oesterhelt et al (2007). Regulation of photosynthesis in the unicellular acidophilic red alga *Galdieria sulphuraria*. Plant J.3:500511.

application example

2 µg of total protein from (**1**) *Horderum vulgare* leaf extracted with PEB (**AS08 300**), (**2**) *Chlamydomonas reinhardtii* total cell extracted with PEB (**AS08 300**), (**3**) *Synechococcus* sp. 7942 total cell extracted with 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% ECL Advance blocking reagent (GE Healthcare) 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: 50 000 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, from Abcam) diluted to 1:10 000 in 2% ECL Advance blocking solution for 1h at room temperature with agitation. The blots were washed as above and developed for 5 min with ECL Advance 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).