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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 (AtCq01060)

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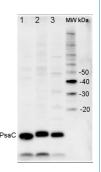
non-specific signals from chlotophylls or lipids if pigment is retained near the bottom of the blot.

selected references

<u>Ifuku</u> 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. <u>Oesterhelt</u> 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).



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