

Product no **AS09 461**

## PsaD | PSI-D subunit of photosystem I

### Product information

**Immunogen** | KLH-conjugated synthetic peptide 100% conserved in all known plant PsaD sequences including *Arabidopsis thaliana* PSI-D1 UniProt: [Q9S7H1](https://www.uniprot.org/entry/Q9S7H1), TAIR: [At4g02770](https://www.tair.org/entry/At4g02770) and PSI-D2 UniProt: [Q9SA56](https://www.uniprot.org/entry/Q9SA56), TAIR [At1g03130](https://www.tair.org/entry/At1g03130) as well as *Physcomitrella patens*. The conservation in *Chlamydomonas reinhardtii* is high (14 of 16 aminoacids are identical).

**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 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.

**Additional information** | PsaD has frequently been used as a marker for intact PSI reaction centers.

This product can be sold containing proclin if requested.

### Application information

**Recommended dilution** | 1 : 1000 (WB)

**Expected | apparent MW** | 17.9 | 20 (for *Arabidopsis thaliana*)

**Confirmed reactivity** | *Arabidopsis thaliana*, *Chlamydomonas reinhardtii*, *Hordeum vulgare*, *Lactuca sativa*, *Oryza sativa*, *Physcomitrella patens*, *Picea glauca*, *Pinus strobus*, *Oryza sativa*, *Physcomitrella patens*, *Spinacia oleracea*, *Synechocystis PCC 6803*, *Triticum aestivum*, *Triticale*, *Zea mays*

**Predicted reactivity** | Alge, Dicots, *Catalpa bungei*, *Cucumis melo*, Conifers, *Cyanidioschyzon merolae*, *Bigeloviella natans*, *Nannochloropsis sp.*, *Nicotiana tabacum*, *Phaeodactylum tricornutum*, *Phyla dulcis*, *Zosteria marina*

Species of your interest not listed? [Contact us](#)

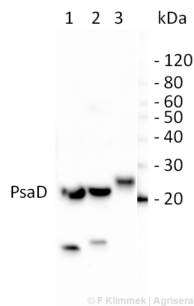
**Not reactive in** | *Synechococcus elongatus sp.* PCC 7942

**Additional information** | This antibody is a replacement for former product, anti-PsaD AS04 046

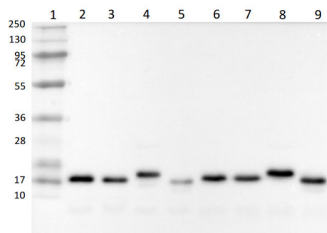
**Contains 0.1% ProClin.** For high resolution images, please visit the specific product page at [www.agrisera.com](http://www.agrisera.com)

**Selected references** | [Chen et al. \(2021\)](#) Degradation of the photosystem II core complex is independent of chlorophyll degradation mediated by Stay-Green Mg2+ dechelataase in Arabidopsis, Plant Science, Volume 307, 2021, 110902, ISSN 0168-9452, <https://doi.org/10.1016/j.plantsci.2021.110902>.  
[Pipitone et al. \(2021\)](#). A multifaceted analysis reveals two distinct phases of chloroplast biogenesis during de-etiolation in Arabidopsis. Elife. 2021 Feb 25;10:e62709. doi: 10.7554/eLife.62709. PMID: 33629953; PMCID: PMC7906606.  
[Kamea et al. \(2021\)](#). Substitution of deoxycholate with the amphiphilic polymer amphipol A8-35 improves the stability of large protein complexes during native electrophoresis. Plant Cell Physiol. 2021 Jan 5:pcaa165. doi: 10.1093/pcp/pcaa165. Epub ahead of print. PMID: 33399873.  
[Tang et al. \(2020\)](#). OsNSUN2-Mediated 5-Methylcytosine mRNA Modification Enhances Rice Adaptation to High Temperature. Dev Cell. 2020 May 4;53(3):272-286.e7. doi: 10.1016/j.devcel.2020.03.009.  
[Wang et al. \(2020\)](#) Rerouting of ribosomal proteins into splicing in plant organelles. BioRxiv, DOI: 10.1101/2020.03.03.974766 .BN-PAGE

## Application example



**10 µg of total leaf protein** extracted with PEB (**AS08 300**) from (1) *Zea mays*, (2) *Chlamydomonas reinhardtii*, and (3) *Spinacia oleracea* were separated on **4-12% NuPage** (Invitrogen) **LDS-PAGE** and blotted 80 min (30V) to **nitrocellulose**. Filter was blocked 1h with **2% low-fat milk powder** in TBS-T (0.1% TWEEN 20) and probed with **anti-PsaD** (AS09 461, **1:1000**, 1h) and secondary anti-rabbit (**1:40000**, 1h) antibody (HRP conjugated) in TBS-T containing 2% low fat milk powder. Antibody incubations were followed by washings in TBS-T (15, +5, +5, +5 min). All steps were performed at RT with agitation. Signal was detected with **chemiluminescent detection reagent** using a GenoPlex Chemi CCD (accumulated signal 10 x 30s exposure, bin 2x2).



Total cellular (lanes 2 – 5) and membrane proteins (lanes 6 – 9) from various environmental isolated of *Chlamydomonas reinhardtii* were extracted with a buffer containing 62.5mM Tris-HCl pH 6.8, 10% glycerol, 2% SDS, 50mM DTT, 10mM NaF and 1% protease inhibitors (P9599, Sigma Aldrich) and denatured at 65 °C for 5 min. Samples (0.25 µg of chlorophyll per lane) were separated on 12% SDS-PAGE containing 6M urea and blotted 1h to PVDF using tank transfer. Blots were blocked with 5% skim milk powder in TBS-T for 1h at room temperature (RT) with agitation. Blots were incubated in the primary antibody at a dilution of 1:5000 overnight at 4 °C. The antibody solution was decanted and the blots were rinsed briefly once, then washed 3 times for 10 min in TBS-T at RT with agitation. Blots were incubated in secondary antibody (anti-rabbit IgG HRP-conjugated, Agrisera **AS09 602**) diluted to 1:20 000 for 1h at RT with agitation. The blots were washed as above, developed for 5 min with chemiluminescent detection reagent and then imaged using a ChemiDoc MP imaging system and Image Lab software (Bio-Rad Laboratories). Exposure time was 10 seconds.

Courtesy of Kenneth Wilson, University of Saskatchewan, Canada