

product **AS09 461**  
**PsaD | PSI-D subunit of photosystem I**

## product information

<b>background</b>	<b>PsaD</b> (PSI-D) is a core subunit of photosystem I highly conserved in all photosynthetic organisms (including bacteria with Fe-S type reaction centers). In eukaryots its encoded by 1 to 2 nuclear gene(s) and imported as a precursor into the chloroplast. In the thylakoid membrane it associates with PsaA and PsaB on the stromal site of the PSI core forming the Fd-docking site. PsaD is also required for the stable assembly of PsaC.
<b>immunogen</b>	<u>KLH</u> -conjugated synthetic peptide 100% conserved in all known plant PsaD sequences including <i>Arabidopsis thaliana</i> ( <a href="#">At1g03130</a> and <a href="#">At4g02770</a> ) as well as <i>Physcomitrella patens</i> . The conservation in <i>Chlamydomonas reinhardtii</i> is high (14 of 16 aminoacids are identical).
<b>antibody format</b>	rabbit polyclonal, serum, lyophilized
<b>quantity</b>	200 µl - for reconstitution add 200 µl of sterile water
<b>storage</b>	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.
<b>tested applications</b>	western blot (WB)
<b>related products</b>	<u>PSI</u> available antibodies to Photosystem I proteins <u>Photosynthesis</u> available antibodies to photosynthetic proteins
<b>additional information</b>	PsaD has frequently been used as a marker for intact PSI reaction centers.

## application information

<b>recommended dilution</b>	1 : 1000 with SuperSignal West Pico detection (WB)
<b>expected   apparent MW</b>	17.9   20 (for <i>Arabidopsis thaliana</i> )
<b>confirmed reactivity</b>	dicots: <i>Arabidopsis thaliana</i> , <i>Spinacia oleracea</i> , monocots: <i>Hordeum vulgare</i> , <i>Oryza sativa</i> , <i>Zea mays</i> , moss: <i>Physcomitrella patens</i> , algae: <i>Chlamydomonas reinhardtii</i> , cyanobacteria: <i>Synechocystis PCC 6803</i> .
<b>predicted reactivity</b>	plants (monocots, dicots and conifers), <i>Bigeloviella natans</i> , green algae
<b>not reactive in</b>	<i>Synechococcus elongatus</i> sp. PCC 7942
<b>additional information</b>	this antibody is a replacement for former product, anti-PsaD <a href="#">AS04 046</a>

## selected references

- [Qin et al. \(2014\)](#). Isolation and characterization of a PSI-LHCI super-complex and its sub-complexes from a siphonaceous marine green alga, *Bryopsis Corticulans*. *Photosynth Res.* 2014 Sep 12.
- [Cheng and He \(2014\)](#). PfsR Is a Key Regulator of Iron Homeostasis in *Synechocystis PCC 6803*. *PLoS One.* 2014 Jul 10;9(7):e101743. doi: 10.1371/journal.pone.0101743. eCollection 2014.
- [Tomizioli et al. \(2014\)](#). Deciphering thylakoid sub-compartments using a mass spectrometry-based approach. *Mol Cell Proteomics.* 2014 May 28. pii: mcp.M114.040923.

## 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, Abcam) 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 **SuperSignal West Pico** (Thermo Scientific) using a GenoPlex Chemi CCD (accumulated signal 10 x 30s exposure, bin 2x2).

