

# Agrisera

This product is for research use only (not for diagnostic or therapeutic use)

contact: [support@agrisera.com](mailto:support@agrisera.com)

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

Product no **AS05 084A-HRP**

**PsbA | D1 protein of PSII, C-terminal, HRP-conjugated (40 µg)**

## Product information

<b>Background</b>	The psbA gene has been cloned from many species of plants, green algae, and cyanobacteria. The psbA gene is located in the chloroplast genome and encodes for the D1 protein, a core component of Photosystem II. PsbA/D1 is rapidly cycled under illumination in all oxygenic photobionts. Tracking PsbA pools using the Global PsbA antibody can show the functional content of Photosystem II in a wide range of samples. Alternative names: 32 kDa thylakoid membrane protein, photosystem II protein D1.
<b>Immunogen</b>	KLH-conjugated synthetic peptide derived from available plant, algal and cyanobacterial PsbA sequences, including <i>Arabidopsis thaliana</i> UniProt: <a href="#">A4QJR4</a> , TAIR: <a href="#">AtCg00020</a> , <i>Oryza sativa</i> <a href="#">POC434</a> , <i>Populus alba</i> <a href="#">Q14FH6</a> , <i>Physcomitrella patens</i> <a href="#">Q6YXN7</a> , <i>Chlamydomonas reinhardtii</i> <a href="#">P07753</a> , <i>Synechocystis</i> sp. <a href="#">P14660</a> and many others
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Purity</b>	Affinity purified
<b>Format</b>	Liquid, conjugated to HRP
<b>Quantity</b>	40 µg
<b>Storage</b>	Store at 4 °C for 12-18 months. A preservative may be added for long time storage up to 2 years.

**Tested applications** | Western blot (WB)

**Related products** | [AS01 016S](#) | PsbA protein standard for a [quantitative western blot](#)  
[AS05 084PRE](#) | PsbA | D1 protein of PSII, C-terminal, pre-immune serum  
[AS08 084A](#) | Anti-PsbA | D1 protein of PSII, C-terminal, rabbit antibodies  
[AS11 1786](#) | Anti-PsbA N-terminal, rabbit antibodies  
[AS10 704](#) | Anti-PsbA | D1 protein of PSII, DE-loop, rabbit antibodies  
[AS13 2669](#) | Anti-PsbA | D1 protein of PSII, phosphorylated, rabbit antibodies

[Plant and algal protein extraction buffer](#)

**Additional information** | Due to biology of PsbA (D1) protein a number of degradation products can appear in a sample and may be observed when using anti-PsbA antibodies, including products having apparent molecular weights of 24kDa and 16kDa. D1 degradation is a complex set of events and the products observed can be influenced by both the extraction procedure and the physiology of the cells prior to harvest. Third, cross-linking may occur between D1 and cytochrome b559, shifting the protein higher in the gel. In cyanobacteria (PCC7942), three different bands were competed out by preincubating the antibody with the PsbA free peptide, indicating that all bands are indeed PsbA and its precursors or breakdown products. Competition assays were also performed with spinach and *Chlamydomonas*, confirming the identity of PsbA bands.

Anti-PsbA antibodies will not detect D2 protein, as the peptide used to generate PsbA antibodies has no homology to the D2 sequence.

## Application information

**Recommended dilution** | 1 : 15 000 (WB)

**Expected | apparent MW** | 38 | 28-30 kDa

**Confirmed reactivity** | *Anabaena* 7120, *Arabidopsis thaliana*, *Artemisia annua*, *Arundo* sp., *Chlamydomonas reinhardtii*, *Colobanthus quitensis* Kunt Bartl, *Coscinodiscus wailesii*, *Craterostigma* sp., *Ditylum brightwellii*, *Glycine max*, *Hordeum vulgare*, *Lindernia* sp., *Miscanthus x giganteus*, *Marchantia polymorpha* (liverwort), *Nicotiana benthamiana*, *Panicum miliaceum*, *Panax ginseng*, *Panicum maximum*, *Pinus strobus*, *Physcomitrella patens*, *Synechococcus* sp. PCC 7942, *Paulinella chromatophora* (amoeba), *Prochlorococcus* sp. (surface and deep water ecotype), *Spirodela polyrhiza*, *Symbiodinium* sp., *Zea mays*

**Predicted reactivity** |

# Agrisera

This product is **for research use only** (not for diagnostic or therapeutic use)

contact: [support@agrisera.com](mailto:support@agrisera.com)

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

Algae (brown and red), Dictos, Conifers, *Cyanobacteria*, *Medicago sativa*, *Nannochloropsis* sp., *Pisum sativum*, *Triticum aestivum*, cellular [compartment marker] of thylakoid membrane.

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

## Not reactive in

No confirmed exceptions from predicted reactivity are currently known.

## Additional information

The antibody is appropriate for detecting both, 24 kDa or the 10 kDa C-terminal fragments, whichever is generated under given treatment conditions. In our analysis we have seen both, ca. 24 kDa and ca. 10 kDa fragments from different samples, depending on treatments and isolation procedures.

Rabbit anti-PsbA antibody can detect more than one band of PsbA protein, e.g. precursor and mature protein as compare to the hen anti-PsbA antibodies AS01 016.

This antibody will detect the phosphorylated form of D1 as an alternate band to the main band on a high resolution gel.

The antibody will bind to cross-linked proteins: D1/D2, D1/cyt b559, D1/CP43.

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

## Selected references

[Thurotte](#) et al. (2020). DnaK3 Is Involved in Biogenesis and/or Maintenance of Thylakoid Membrane Protein Complexes in the Cyanobacterium *Synechocystis* Sp. PCC 6803. *Life* (Basel). 2020 Apr 30;10(5):E55. doi: 10.3390/life10050055.

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