

Product no **AS05 084A-HRP****PsbA | D1 protein of PSII, C-terminal, HRP-conjugated (40 µg)****Product information**

Immunogen	KLH-conjugated synthetic peptide derived from available plant, algal and cyanobacterial PsbA sequences, including <i>Arabidopsis thaliana</i> UniProt: A4QJR4 , TAIR: AtCg00020 , <i>Oryza sativa</i> P0C434 , <i>Populus alba</i> Q14FH6 , <i>Physcomitrella patens</i> Q6YXN7 , <i>Chlamydomonas reinhardtii</i> P07753 , <i>Synechocystis</i> sp. P14660 and many others
Host	Rabbit
Clonality	Polyclonal
Purity	Immunogen affinity purified serum in PBS pH 7.4, conjugated to HRP.
Format	Liquid
Quantity	40 µg
Storage	Store at 4°C for 12-18 months. A preservative may be added for long time storage up to 2 years.

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	<i>Anabaena</i> 7120, <i>Arabidopsis thaliana</i> , <i>Artemisia annua</i> , <i>Arundo</i> sp., <i>Chlamydomonas reinhardtii</i> , <i>Colobanthus quitensis</i> Kunt Bartl, <i>Coscinodiscus wailesii</i> , <i>Craterostigma</i> sp., <i>Ditylum brightwellii</i> , <i>Glycine max</i> , <i>Hordeum vulgare</i> , <i>Lindernia</i> sp., <i>Miscanthus x giganteus</i> , <i>Marchantia polymorpha</i> (liverwort), <i>Nicotiana benthamiana</i> , <i>Panicum miliaceum</i> , <i>Panax ginseng</i> , <i>Panicum maximum</i> , <i>Pinus strobus</i> , <i>Physcomitrium patens</i> , <i>Synechococcus</i> sp. PCC 7942, <i>Paulinella chromatophora</i> (amoeba), <i>Prochlorococcus</i> sp. (surface and deep water ecotype), <i>Spirodela polyrhiza</i> , <i>Symbiodinium</i> sp., <i>Zea mays</i>
Predicted reactivity	Algae (brown and red), <i>Brassica napus</i> , Conifers, Cyanobacteria, Dictos, <i>Cannabis sativa</i> , <i>Galdieria sulphuraria</i> , <i>Lactuca sativa</i> , <i>Lycopersicon esculentum</i> , <i>Medicago sativa</i> , <i>Nannochloropsis</i> sp., <i>Oryza sativa</i> , <i>Ostreococcus</i> sp. <i>Pisum sativum</i> , <i>Porphyridium purpureum</i> , <i>Sesamum indicum</i> , <i>Thalassiosira pseudonana</i> , <i>Zostera marina</i> , <i>Vitis vinifera</i> 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.
Selected references	Thurotte et al. (2020). DnaK3 Is Involved in Biogenesis and/or Maintenance of Thylakoid Membrane Protein Complexes in the Cyanobacterium <i>Synechocystis</i> Sp. PCC 6803. <i>Life</i> (Basel). 2020 Apr 30;10(5):E55. doi: 10.3390/life10050055.