

product **AS10 704**
PsbA | D1 protein of PSII, DE-loop

product information

background	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
immunogen	<u>KLH</u> -conjugated synthetic peptide, amino acids 234-242 of D1 protein <u>P83755</u>
antibody format	rabbit polyclonal serum lyophilized
quantity	50 µl 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.
tested applications	western blot (WB)
additional information	antibody will detect 23 kDa N-terminal fragment

application information

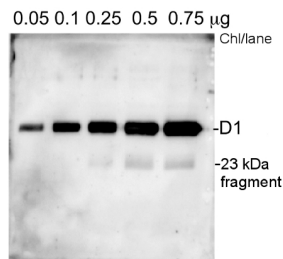
recommended dilution	1 : 10 000 on thylakoid fraction with standard ECL(WB)
expected apparent MW	38 28-30 kDa
confirmed reactivity	dicots: <i>A.thaliana</i> , <i>M. truncatula</i> , <i>S. vulgaris</i> , <i>S. oleracea</i> , monocots: <i>H. vulgare</i> , moss: <i>P. patens</i> , algae: <i>Ch. reinhardtii</i> , <i>Synechococcus</i> sp. PCC 7942, <i>Synechocystis</i> sp. PCC6803
predicted reactivity	dicots including: <i>Glycine max</i> , <i>Nicotiana tabacum</i> , <i>Pisum sativum</i> , <i>Ricinus communis</i> , <i>Vitis vinifera</i> , monocots including: <i>Oryza sativa</i> , <i>Zea mays</i> , trees: <i>Populus balsamifera</i>
not reactive in	no confirmed exceptions from predicted reactivity known in the moment
additional information	antibody is recognizing a 23 kDa fragment in spinach and <i>Arabidopsis</i> thylakoids for usage on total cell extracts the dilution needs to be determined experimentally
selected references	<u>Yoshioka</u> et al. (2010). Quality control of photosystem II: FtsH hexamers are localized near photosystem II at grana for the swift repair of damage. J Biol Chem

285(53): 41972-41981.

Lundin et al. (2007). The Arabidopsis PsbO2 protein regulates dephosphorylation and turnover of the photosystem II reaction centre D1 protein. *Plant J.* 49: 528-539

Spetea et al. (1999). GTP bound to chloroplast thylakoid membranes is required for light-induced, multienzyme degradation of the photosystem II D1 protein. *PNAS* 96: 6547-6552.

application example



Thylakoid membranes from Arabidopsis (0.05-0.75 µg of Chl) were separated on 14%AA+ 6M urea gels and blotted 1h to PVDF. Blots were blocked immediately following transfer in 5% milk solution for 1h at room temperature with agitation. Blots were incubated in the primary antibody at a dilution of 1: 20 000 o.n. at 4 °C 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 (donkey anti-rabbit IgG horse radish peroxidase conjugated, from GE-Healthcare) diluted to 1:5 000 . The blots were washed as above and developed for 5 min with ECL-Plus detection reagent according to the manufacturers instructions. Exposure time was 1 min in CCD camera Fuji4000.

Courtesy Professor Cornelia Spetea-Wiklund