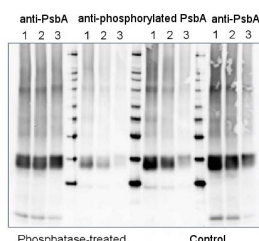


Product no **AS13 2669****PsbA | D1 protein of PSII, phosphorylated****Product information**

<b>Immunogen</b>	KLH-conjugated synthetic peptide derived from available plant PsbA sequences with phosphorylated (T), including <i>Arabidopsis thaliana</i> UniProt: <a href="#">P83755</a> , TAIR: <a href="#">AtCg00020</a> , <i>Oryza sativa</i> <a href="#">P0C434</a> and other higher plant PsbA sequences
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Purity</b>	Immunogen affinity purified serum in PBS pH 7.4.
<b>Format</b>	Lyophilized
<b>Quantity</b>	50 µg
<b>Reconstitution</b>	For reconstitution add 50 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 the tubes briefly prior to opening them to avoid any losses that might occur from material adhering to the cap or sides of the tube.

**Application information**

<b>Recommended dilution</b>	1 : 10 000 (WB)
<b>Expected   apparent MW</b>	38   28-30 kDa
<b>Confirmed reactivity</b>	<i>Arabidopsis thaliana</i> , <i>Chlamydomonas reinhardtii</i> , <i>Hordeum vulgare</i> , <i>Zea mays</i>
<b>Predicted reactivity</b>	Dicots, Conifers, Monocots
	Species of your interest not listed? <a href="#">Contact us</a>
<b>Not reactive in</b>	Cyanobacteria
<b>Additional information</b>	This antibody is detecting phosphorylated PsbA protein. Antibodies are purified on a non-phosphorylated peptide.
<b>Selected references</b>	<a href="#">Verhoeven and Kornkven</a> (2023). Differences in photoprotective strategy during winter in Eastern white pine and white spruce. <i>Tree Physiol.</i> 2023 Oct 20:tpad131.doi: 10.1093/treephys/tpad131. <a href="#">Mazur et al.</a> (2021) The SnRK2.10 kinase mitigates the adverse effects of salinity by protecting photosynthetic machinery. <i>Plant Physiol.</i> 2021 Dec 4;187(4):2785-2802. doi: 10.1093/plphys/kiab438. PMID: 34632500; PMCID: PMC8644180. <a href="#">Upadhyaya</a> and Jagadeeshwar Rao (2019). Reciprocal regulation of photosynthesis and mitochondrial respiration by TOR kinase in <i>Chlamydomonas reinhardtii</i> . <i>Plant Direct</i> Volume 3, Issue 11. <a href="#">Xing et al.</a> (2017). Deletion of CGLD1 Impairs PSII and Increases Singlet Oxygen Tolerance of Green Alga <i>Chlamydomonas reinhardtii</i> . <i>Front. Plant Sci.</i> , 15 December 2017. <a href="https://doi.org/10.3389/fpls.2017.02154">https://doi.org/10.3389/fpls.2017.02154</a> . <a href="#">Li et al.</a> (2015). Effect of hydrogen sulfide on D1 protein in wheat under drought stress. <i>Acta Physiologiae Plantarum</i> November 2015, 37:225.

**Application example**5 µg of total protein from 10 days old seedlings of *Hordeum vulgare* exposed to high

light of 450  $\mu$ mol to induce phosphorylation **(1)**, or low light of 2  $\mu$ mol **(2)**, darkness **(3)** for three hours were extracted with Protein Extraction Buffer PEB ([AS08 300](#)). All three samples were treated with lambda protein phosphatase (NEB) to dephosphorylate the PsbA protein (Phosphatase-treated). Samples were diluted with 1X sample buffer (NuPAGE LDS sample buffer (Invitrogen) supplemented with 50 mM DTT and heated at 70°C for 5 min and keep on ice before loading. Protein samples were separated on NuPAGE 4-12% Tris-Bis gel (Invitrogen) LDS-PAGE and blotted for 1h to 1.5h on PVDF using tank transfer. Blots were blocked immediately following transfer in 2% blocking reagent or 5% non-fat milk dissolved in 20 mM Tris, 137 mM sodium chloride pH 7.6 with 0.1% (v/v) Tween-20 (TBS-T) for 1h at room temperature with agitation. Blots were incubated in the primary antibody anti-PsbA ([AS05 084](#), first 3 and last 3 lanes on a blot) and anti-phosphorylated PsbA ([AS13 2669](#), middle lanes) at a dilution of 1: 10 000 (in blocking reagent) for 1h at room temperature with agitation. The antibody solution was decanted and the blot was rinsed briefly twice, and then washed 1x15 min and 3x5 min with TBS-T at room temperature with agitation. Blots were incubated in secondary antibody (Agrisera anti-rabbit IgG horse radish peroxidase conjugated, recommended secondary antibody [AS09 602](#)) diluted to 1:25 000 in blocking reagent for 1h at room temperature with agitation. The blots were washed as above. The blot was developed for 5 min with extreme femtogram range chemiluminescence detection reagent according the manufacturers instructions. Images of the blots were obtained using a CCD imager (FluorSMax, Bio-Rad) and Quantity One software (Bio-Rad). Exposure time was 2 minutes.