

product **AS03 032R**  
**PsbS | 22 kDa Lhc-like PSII protein**

### product information

<b>background</b>	The 22 kDa <b>PsbS</b> protein of photosystem II functions in the regulation of photosynthetic light harvesting. Along with a low thylakoid lumen pH and the presence of de-epoxidized xanthophylls, PsbS is necessary for photoprotective thermal dissipation of excess absorbed light energy in plants, measured as non-photochemical quenching of chlorophyll fluorescence.
<b>immunogen</b>	KLH-conjugated synthetic peptide derived from available di and monocot PsbS sequences, including <i>Arabidopsis thaliana</i> ( <a href="#">At1g44575</a> )
<b>antibody format</b>	rabbit polyclonal, affinity purified serum in PBS pH 7.4, 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>additional information</b>	to be added when available

### application information

<b>recommended dilution</b>	1 : 2000 with standar ECL (WB)
<b>expected   apparent MW</b>	28   22 kDa for <i>Arabidopsis thaliana</i>
<b>confirmed reactivity</b>	<i>Arabidopsis thaliana</i>
<b>predicted reactivity</b>	di and monocots
<b>not reactive in</b>	<i>Chlamydomonas reinhardtii</i> , <i>Chlorella</i>
<b>additional information</b>	to be added when available
<b>selected references</b>	<a href="#">Sirpiö et al. (2007)</a> TLP18.3, a novel thylakoid lumen protein regulating photosystem II repair cycle. <i>Biochem J</i> 406: 415-425 <a href="#">Sato et al. (2007)</a> Mendel's green cotyledon gene encodes a positive regulator of the chlorophyll-degrading pathway. <i>PNAS</i> 104: 14169-14174

### application example

**15 µg** of *Arabidopsis thaliana* thylakoids from (1) PsbS-overexpressing line, (2) PsbS-deficient npq4-line, and (3) wt (col) together with (4) total leaf protein from *Arabidopsis thaliana* wt extracted with PEB (**AS08 300**) were separated on **4-12%** NuPage (Invitrogen) **LDS-PAGE** and blotted 1h to **nitrocellulose**. Filters were blocked 1h with 2% low-fat **milk powder** in TBS-T (0.1% TWEEN 20) and probed with **anti-PsbS** (AS03 032, **1:2000**, 1h) and secondary anti-rabbit (1:20000, 1 h) 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 **standard ECL** (GE Healthcare) using a Fuji LAS-3000 CCD (300s, standard sensitivity). Technical note(s): the IgG reacts with 2 bands in thylakoids from overexpresser (1) and wt (3) that both are absent in the PsbS-deficient npq4 line (2) and therefore both might represent PsbS-forms with a difference in molecular weight of ~1 kDa.

