This product is **for research use only** (not for diagnostic or therapeutic use) **contact: support@agrisera.com**

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product **AS03 032**

# PsbS | 22 kDa Lhc-like PSII protein

## product information

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|---|---|
| **background** | The 22 kDa **PsbS** 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. |
| **immunogen** | KLH-conjugated synthetic peptide derived from available di and monocot PsbS sequences, including *Arabidopsis thaliana* (At1g44575). This sequence is even conserved in conifers. |
| **antibody format** | hen polyclonal, total IgY in PBS pH 8.0+ 0.02% sodium azide, liquid |
| **quantity** | 100 µl |
| **storage** | store at 4°C; make aliquots to avoid working with a stock. Please, remember to spin tubes briefly prior to opening them to avoid any losses that might occur from liquid material adhering to the cap or sides of the tubes. |
| **tested applications** | western blot (WB) |
| **additional information** | to be added when available |

## application information

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| **recommended dilution** | 1: 2000 - 1 : 4000 (WB) |
| **expected \| apparent MW** | 28 \| 22 kDa for *Arabidopsis thaliana* |
| **confirmed reactivity** | *Arabidopsis thaliana, Avena sativa, Brassica napus, Hordeum vulgare, Pinus sylvestris, Populus tremula, Spinacia oleracea* |
| **predicted reactivity** | dicots and monocots, conifers |
| **not reactive in** | *Chlamydomonas reinhardtii, Chlorella sp.* |
| **additional information** | to be added when available |
| **selected references** | Zarter et al. (2006). Winder acclimation of PsbS and related proteins in the evergreen Arctostaphylos uva-uri as influenced by altitute and light environment. Plant Cell Environ 29: 869-878. |

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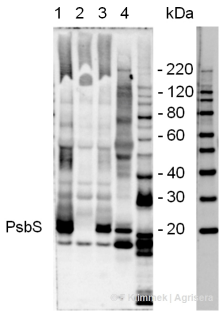
## application example




**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): (a) This IgY shows reactivity to both markers loaded in lane M (MagicMark and NovexSharp, both Invitrogen), for comparison a marker lane from same filter (probed seperately with a IgG-antiserum) is shown to the right. (b) the IgY reacts with 2 bands in leafs and thylakoids that both are absent in the PsbS-deficient npq4 line and therefore both might represent PsbS-forms with a difference in molecular weight of ~1 kDa.