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Product no AS04 038

Anti-PsbB | CP47 protein of PSII

Product information

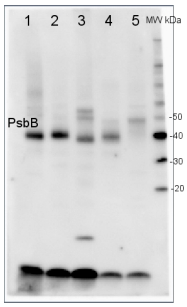
Immunogen	KLH-conjugated synthetic peptide derived from available plant, algal and cyanobacterial PsbB sequences including *Arabidopsis thaliana* AtCg00680, *Hordeum vulgare* P10900, *Oryza sativa* P0C364, *Synechocystis* PCC 6803 P05429
Host	Rabbit
Clonality	Polyclonal
Purity	Serum
Format	Lyophilized
Quantity	50 µl
Reconstitution	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 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.
Additional information	This antibody can be used as a loading control for studies of PSIi or photosynthetic acclimation in diatoms Blommaert et al. 2017. Limnol. Oceanogr. DOI: 10.1002/lno.10511. This product can be sold containing ProClin if requested.

Application information

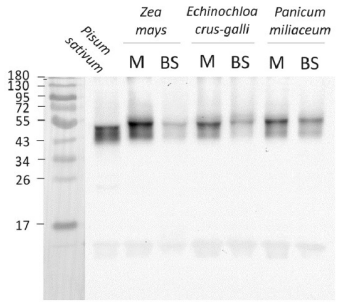
Recommended dilution	1: 10 000 (CN-PAGE), 1 : 2000 (WB)
Expected | apparent MW	56 kDa
Confirmed reactivity	*Anabaena* 7120, *Arabidopsis thaliana, Chlamydomonas reinhardtii, Dionaea muscipula, Echinochloa crus-galli, Hordeum vulgare, Malus prunifolia, Mesostigma viride, Nicotiana benthamiana, Opephora guenter-grassii* (diatom), *Oryza sativa, Panicum miliaceum, Phaseolus vulgaris, Physcomitrium patens, Pisum sativum, Skeletonema costatum* (diatom), *Synechococcus* PCC7942, 6803, , *Seminavis robusta* (diatom), Zea mays
Predicted reactivity	*Abies concolor, Brachypodum distachyon, Brassica napus, Cannabis sativa,* Cyanobacteria, *Cucumis sativus, Ephedra sp., Glycine max, Lotus japonicus, Manihot esculenta, Nanochloropsis sp., Nicotiana tabacum, Panax ginseng, Populus trichocarpa,* Species of your interest not listed? Contact us
Not reactive in	No confirmed exceptions from predicted reactivity are currently known
Additional information	This product can be sold containing ProClin if requested in bis-tris gel systems PsbB protein migrates between 40-45 kDa
Selected references	Collombat et al. (2025). Arabidopsis conditional photosynthesis mutants abc1k1 and var2 accumulate partially processed thylakoid preproteins and are defective in chloroplast biogenesis. Commun Biol . 2025 Jan 22;8(1):111. doi: 10.1038/s42003-025-07497-y. Zhao et al. (2024). Psb28 protein is indispensable for stable accumulation of PSII core complexes in Arabidopsis.Plant J. 2024 May 26. doi: 10.1111/tpj.16844. Sulli et al. (2023). Generation and physiological characterization of genome edited Nicotiana benthamiana plants containing zeaxanthin as the only leaf xanthophyll. Planta . 2023 Oct 5;258(5):93. doi: 10.1007/s00425-023-04248-3. Nagy et al. (2023). Photoautotrophic and sustained H2 production by the pgr5 mutant of Chlamydomonas reinhardtii in simulated daily light conditions. International Journal of Hydrogen Energy Volume 53, 31 January 2024, Pages 760-769. Vidal-Meireles, et al. (2023)The lifetime of the oxygen-evolving complex subunit PSBO depends on light intensity and carbon availability in Chlamydomonas. Plant Cell Environ. 2023;46(2):422-439. doi:10.1111/pce.14483 Miernicka et al. (2022) The Adjustment Strategy of Venus Flytrap Photosynthetic Apparatus to UV-A Radiation. Cells. 2022;11(19):3030. Published 2022 Sep 27. doi:10.3390/cells11193032 Konert et al (2022). High-light-inducible proteins HliA and HliB: pigment binding and protein-protein interactions. Photosynth Res. 2022 Jun;152(3):317-332. doi: 10.1007/s11120-022-00904-z. Epub 2022 Feb 26. PMID: 35218444. Guardini et al. (2022). Loss of a single chlorophyll in CP29 triggers re-organization of the Photosystem II supramolecular assembly. Biochim Biophys Acta Bioenerg. 2022 Jun 1;1863(5):148555. doi: 10.1016/j.bbabio.2022.148555. Epub 2022 Apr 2. PMID: 35378087.

Xiong et al. (2022) a chloroplast nucleoid protein of bacterial origin linking chloroplast transcriptional and translational machineries, is required for proper chloroplast gene expression in Arabidopsis thaliana. Nucleic Acids Res. 2022 Jun 23;50(12):6715-34. doi: 10.1093/nar/gkac501. Epub ahead of print. PMID: 35736138; PMCID: PMC9262611.

Application example



2 µg of total protein from *Arabidopsis thaliana* leaf (**1**), *Horderum vulgare* (**2**), *Chlamydomonas reinhardtii* total cell (**3**) *Synechococcus* sp. 7942 total cell (**4**), *Anabaena* sp. total cell (**5**), were extracted with PEB (**AS08 300**) and separated on **4-12%** NuPage (Invitrogen) **LDS-PAGE** and blotted 1h to **PVDF**. Blots were blocked immediately following transfer in 2% blocking reagent 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 at a dilution of 1: 50 000 for 1h at room temperature 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 (anti-rabbit IgG horse radish peroxidase conjugated, recommended secondary antibody AS09 602) diluted to 1:50 000 in 2% blocking solution for 1h at room temperature with agitation. The blots were washed as above and developed for 5 min with 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).



2.0 µg of chlorophyll from *Pisum sativum* chloroplasts and from *Zea mays, Echinochloa crus-galli, Panicum miliaceum* mesophyll and bundle sheath chloroplasts extracted with 0.4 M sorbitol, 50 mM Hepes NaOH, pH 7.8, 10 mM NaCl, 5 mM $MgCl_2$ and 2 mM EDTA. Samples were denatured with Laemmli buffer at 75°C for 5 min and were separated on 12% SDS-PAGE and blotted 30 min to PVDF using wet transfer. Blot was blocked with 5% milk in TBS for 2h at room temperature (RT) with agitation. Blot was incubated in the primary antibody AS04 038 at a dilution of 1: 2000 overnight at 4°C with agitation in 1% milk in TBS-T. The antibody solution was decanted and the blot was washed 4 times for 5 min in TBS-T at RT with agitation. Blot was incubated in secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated, from Agrisera, AS09 602) diluted to 1:25 000 in 1% milk in TBS-T for 1h at RT with agitation. The blot was washed 5 times for 5 min in TBS-T and 2 times for 5 min in TBS, and developed for 1 min with 1.25 mM luminol, 0.198 mM coumaric acid and 0.009% H2O2 in 0.1 M Tris- HCl, pH 8.5. Exposure time in ChemiDoc System was 122 seconds.

Courtesy Dr. Wioleta Wasilewska-Dębowska, Warsaw University, Poland