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Product no AS10 695

Anti-PsaB | PSI-B core subunit of photosystem I

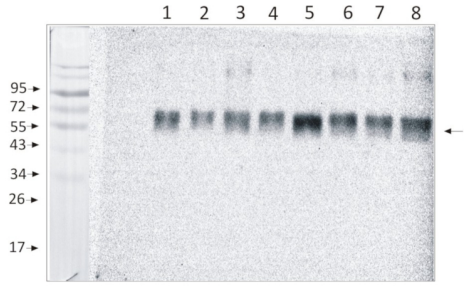
Product information

Immunogen	KLH-conjugated synthetic peptide derived from known PsaB sequences including *Arabidopsis thaliana* UniProt: P56767, TAIR: AtCg00340
Host	Rabbit
Clonality	Polyclonal
Purity	Antigen affinity purified in PBS pH 7.4
Format	Lyophilized
Quantity	50 µg
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.

Application information

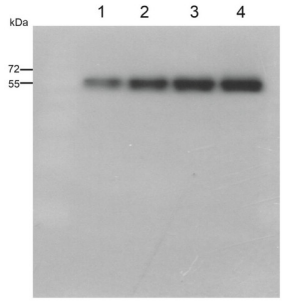
Recommended dilution	1 : 1000 (BN-PAGE), (WB)
Expected | apparent MW	82.7 | 55-60 kDa
Confirmed reactivity	*Arabidopsis thaliana, Brassica napus, Brassica rapa, Bryopsis corticulans, Echinola crus-galli, Hordeum vulgare*, Lolium perenne, *Neochloris oleoabundans* (chlorophyta), *Mesostigma viride, Nicotiana tabacum, Phaeodactylum tricornutum, Pisum sativum, Setaria viridis, Solanum lycopersicum, Synechococcus* sp. PCC7942, *Synechocystis* sp. PCC 6803, *Triticum aestivum, Ulva prolifera, Zea mays*
Predicted reactivity	Algae, *Aloysia triphylla, Beta vulgaris, Borago officinalis, Brachypodium distachyon, Cannabis sativa, Cercidiphyllum japonicum, Citrus x limon, Cyanobacteria, Exbucklandia populnea, Gunnera maniCata, Kalanchoe laciniata, Lagenaria siceraria, Lippia origanoides, Lippia alba, Indocalamus sinicus, Manihot esculenta, Morus notabilis, Medicago truncatula, Monsonia emarginata, Mytilaria laosensis, Geranium endressii, Glycine max, Glycine soja, Lotus japonicus, Oryza sativa, Pandanus utilis, Panax ginseng, Parnassia laxmannii , Pelargonium cotyledonis, Pennisetum americanum, Phaseolus pachyrrhizoides, Phaseolus lunatus, Phaseolus vulgaris, Phyla dulcis,, Pinus thunbergii, Populus trichocarpa, Ribes fasciculatum, Rhodoleia championii, Rhyticaryum macrocarpum, Salvia miltiorrhiza, Setaria italica, Solanum tuberosum, Spinacia oleracea, Triticum sp., Vigna angularis, Vitis vinifera* Species of your interest not listed? Contact us
Not reactive in	*Chlamydomonas reinhardtii,* dinoflagellate
Additional information	This product can be sold containing ProClin if requested
Selected references	Xie et al, (2024). LpY3IP1 Enhances the drought and salt tolerance of perennial ryegrass by protecting the photosynthetic apparatus. Scientia Horticulturae Volume 338, 1 December 2024, 113645. Tiwari et al. (2024). Differential FeS cluster photodamage plays a critical role in regulating excess electron flow through photosystem I. Nat Plants. 2024 Oct;10(10):1592-1603. doi: 10.1038/s41477-024-01780-2. Ermakova et al. (2024). Chloroplast NADH dehydrogenase-like complex-mediated cyclic electron flow is the main electron transport route in C4 bundle sheath cells. New Phytol. 2024 Jul 22.doi: 10.1111/nph.19982. Grebe et al. (2024). Accounting for photosystem I photoinhibition sheds new light on seasonal acclimation strategies of boreal conifers. Journal of Experimental Botany, erae145. Völkner et al. (2024). Evidence for partial functional overlap of KEA and MSL transport proteins in the chloroplast inner envelope of Arabidopsis thaliana. FEBS Lett. 2024 Aug;598(15):1877-1887. doi: 10.1002/1873-3468.14887. Jiang et al. (2023). Toxic effects of lanthanum (III) on photosynthetic performance of rice seedlings: Combined chlorophyll fluorescence, chloroplast structure and thylakoid membrane protein assessment. Ecotoxicol Environ Saf. 2023 Nov 15:267:115627.doi: 10.1016/j.ecoenv.2023.115627. Shukla et al. (2020). A novel method produces native LHCII aggregates from the photosynthetic membrane revealing their role in non-photochemical quenching. J Biol Chem. 2020 Oct 20:jbc.RA120.016181. doi: 10.1074/jbc.RA120.016181. Epub ahead of print. PMID: 33082138. Grieco et al. (2020). Adjustment of photosynthetic activity to drought and fluctuating light in wheat. Plant Cell Environ. 2020 Mar 16. doi: 10.1111/pce.13756. Liu et al. (2020). Acid treatment combined with high light leads to increased removal efficiency of Ulva prolifera. Algal Research,Volume 45, January 2020, 101745 Frede et al. (2019). Light quality-induced changes of carotenoid composition in pak choi Brassica rapa ssp. chinensis. J Photochem Photobiol B. 2019 Apr;193:18-30. doi: 10.1016/j.jphotobiol.2019.02.001.

Lima-Melo et al. (2019). Consequences of photosystem-I damage and repair on photosynthesis and carbon use in Arabidopsis thaliana. Plant J. 2018 Nov 29. doi: 10.1111/tpj.14177.



0,5 µg (lanes 1-4) or 1,0 µg (lanes 5-8) of chlorophyll from *Pisum sativum* (1 and 5), *Zea mays*, mesophyll (2 and 6) and bundle sheath (3 and 7), *Echinochloa crus-galli*, mesophyll (4 and 8)chloroplasts extracted with 0.4 M sorbitol, 50 mM Hepes NaOH, pH 7.8, 10 mM NaCl, 5 mM MgCl2 and 2 mM EDTA were loaded to lanes. Samples were denatured with Laemmli buffer at 75 0C 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 for 2h at room temperature (RT) with agitation. Blot was incubated in the primary antibody Anti-PsaB AS10 695 (LOT 2303) at a dilution of 1: 1000 in 1% milk in TBS-T overnight at 40C with agitation. 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 HRP conjugated, from Agrisera, AS09 602, LOT 2304) diluted to 1: 20000 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% H_2O_2 in 0.1 M Tris- HCl, pH 8.5. Exposure time in ChemiDoc System was 83 seconds.

Courtesy Dr. Wiola Wasilewska-Dąbrowska, Warsaw University, Poland



Samples:
Marker: Blue prestained standard (New England Biolabs)

1. 0.25 µg of *Arabidopsis thaliana* thylakoids
2. 0.50 µg of *Arabidopsis thaliana* thylakoids
3. 0.75 µg of *Arabidopsis thaliana* thylakoids
4. 1.0 µg of *Arabidopsis thaliana* thylakoids

Wild type *Arabidopsis thaliana* (ecotype Colombia) thylakoids were isolated according to Sirpiö et al (2011, Methods Mol Biol. 2011; 775:19-30) Samples were denatured at room temperature (RT), separated on 12 % SDS-PAGE with 6 M urea and blotted 1h to a PVDF membrane (0.45 µm) using a semi-dry transfer. Blot was blocked with 5% milk in TBS for 1h at RT with slow agitation and incubated in primary antibody at a dilution of 1: 3 000 overnight at 4°C with slow agitation in 1 % milk/TTBS. The blot was rinsed briefly once, then washed twice for 10 min with TTBS at RT with agitation. The blot was incubated in secondary antibody (Agrisera anti-rabbit IgG horse radish peroxidase conjugated) in 1% milk/TTBS for 1-2 hours at RT with slow agitation, washed as above and incubated for 5 min with ECL according to the manufacturers' instructions. Exposure time was 30 seconds.

Courtesy Virpi Paakkarinen, University of Turku, Department of Life Technologies, Molecular Plant Biology Unit, Finland

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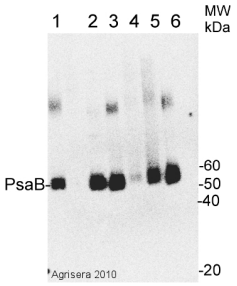
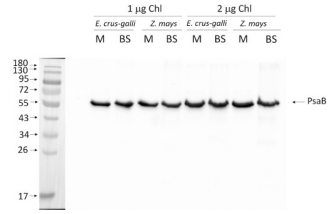


5 µg of total protein from (**1**) *Arabidopsis thaliana* leaf extract, (**2**) *Synechococcus* sp. PCC 7942 , (**3**) *Hordeum vulgare* leaf extract, (**4**) *Physcomitrella patens,* **(5)** *Pisum sativum*, **(6)** *Zea may* were extracted with Agrisera Protein Extraction Buffer PEB and separated on **4-12%** NuPage (Invitrogen) **LDS-PAGE** and blotted 1h to **nitrocellulose OSMONICS**. 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: 10 000 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, from Agrisera, 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 che,iluminescent detection reagent according to 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 30 seconds.



1.0 or 2.0 µg of chlorophyll from mesophyll (M) and bundle sheath (BS) thylakoids of *Zea mays* and *Echinochloa crus-galli* extracted with 0.4 M sorbitol, 50 mM Hepes NaOH, pH 7.8, 10 mM NaCl, 5 mM $MgCl_2$ and 2 mM EDTA were loaded to lanes. 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 for 2h at room temperature (RT) with agitation. Blot was incubated in the primary antibody at a dilution of 1: 1000 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 HRP conjugated, from Agrisera, AS09 602, Lot 1808) 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 60 seconds.

Courtesy Dr. Wiola Wasilewska-Dąbrowska, Warsaw University, Poland