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Agrisera AB | Box 57 | SE-91121 Vännäs | Sweden | +46 (0)935 33 000 | www.agrisera.com

Product no AS01 002

Anti-Lhcb3 | LHCII type III chlorophyll a/b-binding protein

Product information

Immunogen	BSA-conjugated synthetic peptide derived from a highly conserved sequence of Lhcb3 proteins from angiosperms (monocots and dicots) and gymnosperms, including *Arabidopsis thaliana* Lhcb3 UniProt: Q9S7M0,TAIR:AT5G54270. This sequence is highly conserved even in *Ginko biloba* and one of the major LHCII-forms of *Physcomitrella patens.*
Host	Rabbit
Clonality	Polyclonal
Purity	Immunogen affinity purified serum 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.
Additional information	Antibody format is a total IgG fraction, which means that it is a pool of polyclonal antibodies obtained by purification of serum on Protein G, not on a specific antigen column.

Application information

Recommended dilution	1 : 2000 (WB)
Expected | apparent MW	28.7 | 26 kDa for *Arabidopsis thaliana*
Confirmed reactivity	*Arabidopsis thaliana, Arachis hypogaea, Chlorella vulgaris, Cucumis sativa, Dactylis glomeRata, Hordeum vulgare, Lycopersicon esculentum (Solanum lycopersicon), Mesembryanthemum crystallinum, Nicotiana tabacum, Oryza sativa, Pisum sativum, Phaseolus vulgaris, Physcomirella patens, Prasinoderma sp., Pyramimonas sp., Spinacia oleracea, Triticum aestivum, Triticale, Zea may, Verbascum lychnitis*
Predicted reactivity	*Cucumis melo*, Dicots, Gymnosperms, Mosses Species of your interest not listed? Contact us
Not reactive in	*Vigna unguiculata*
Additional information	Protein is processed into mature form (Jansson 1999).
Selected references	Cafferi et al. (2025). A stress-induced paralog of Lhcb4 controls the photosystem II functional architecture in Arabidopsis thaliana. Nat Commun. 2025 Jul 26;16(1):6910. doi: 10.1038/s41467-025-62085-2. Ciesielska et al. (2024). S2P2-the chloroplast-located intramembrane protease and its impact on the stoichiometry and functioning of the photosynthetic apparatus of A. thaliana. Front Plant Sci. 2024 Mar 15:15:1372318. doi: 10.3389/fpls.2024.1372318. von Bismarck et al. (2021) Light acclimation interacts with thylakoid ion transport to govern the dynamics of photosynthesis. Research Square; 2021. DOI: 10.21203/rs.3.rs-948381/v1. Wu et al. (2021). Formation of light-harvesting complex (LHC) II aggregates from LHCII-PSI-LHCI complexes in rice plants under high light. J Exp Bot. 2021 May 3:erab188. doi: 10.1093/jxb/erab188. Epub ahead of print. PMID: 33939808. Wojtowicz et al. (2020). Compensation Mechanism of the Photosynthetic Apparatus in Arabidopsis thaliana ch1 Mutants. Int J Mol Sci. 2020 Dec 28;22(1):221. doi: 10.3390/ijms22010221. PMID: 33379339; PMCID: PMC7794896. Koh et al. (2019). Heterologous synthesis of chlorophyll b in Nannochloropsis salina enhances growth and lipid production by increasing photosynthetic efficiency. Biotechnol Biofuels. 2019 May 14;12:122. doi: 10.1186/s13068-019-1462-3. eCollection 2019. Furukawa et al. (2019). Formation of a PSI–PSII megacomplex containing LHCSR and PsbS in the moss Physcomitrella patens. J Plant Res https://doi.org/10.1007/s10265-019-01138-2.

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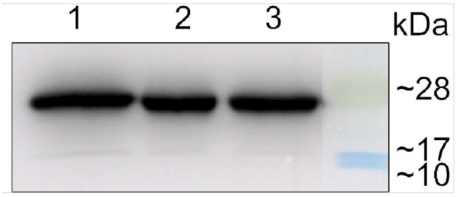
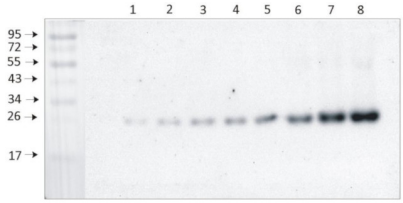


Samples:
1 - 10 µg of 4 days old of wild-type *Arabidopsis thaliana* seedlings extract

2 - 5 µg of 4 days old of wild-type *Arabidopsis thaliana* seedlings extract

3- 10 µg of 4 days old of *Arabidopsis thaliana* mutant seedlings extract

10 µg/well of total protein extracted from fresh 4 days old of *Arabidopsis thaliana* whole seedling. Exact buffer components were: (50 mM Tris–HCl pH 7.5, 10% glycerol, 150 mM NaCl, 10 mM $MgCl_2$, 5 mM EDTA, 5 mM DTT, 0.5% (v/v) Triton X-100, and 1 × protease inhibitors) and denatured with 4X SDS sample loading buffer (200 mM Tris-HCl (pH 6.8). 8% SDS (sodium dodecyl sulfate). 0.4% Bromophenol blue. 40% glycerol) at 95°C 10 min. Samples were separated in the RT on 15 % SDS-PAGE and blotted for 0.5 h to PVDF (pore size of 0.2 um), using: semi-dry at room temperature. Blot was blocked with 5 % milk for: 1h/RT with agitation. Blot was incubated in the primary antibody at a dilution of 1: 2 000 at 4°C with agitation overnight. 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 RT with agitation. Blot was incubated in matching secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated AS09 602 Agrisera) diluted to 1: 50 000 for 2 h/RT with agitation. The blot was washed as above and developed with a following chemiluminescent detection reagent: AS16 ECL-N-10 AgriseraBright (mid picogram). Exposure time was 5 seconds.



Courtesy of Dr .Duorong Xu, LMU München, Germany

From 1 µg to 8 µg of chlorophyll from *Arabidopsis thaliana* 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 were loaded to lanes. Samples were denatured with Laemmli buffer at 75 0 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 Anti-Lhcb3 (LOT 1901) at a dilution of 1: 2000 in 1% milk in TBS-T overnight at 4 0 C 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) diluted to 1:20 000 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% H_2O_2 in 0.1 M Tris- HCl, pH 8.5. Exposure time in ChemiDoc System was 240 seconds.

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