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Product no AS13 2705

Lhcb2-P | LHCII type II chlorophyll a/b-binding protein, phosphorylated

Product information

Immunogen	KLH-conjugated synthetic peptide: RRT*VKSTPQS, where T* indicates phospho-Thr
Host	Rabbit
Clonality	Polyclonal
Purity	Affinity purified serum in PBS, pH 7.4
Format	Lyophilized
Quantity	25 µg
Reconstitution	For reconstitution add 25 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 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.

Application information

Recommended dilution	1 : 10 000 (WB)
Expected | apparent MW	25 | 25 kDa for *Arabidopsis thaliana*
Confirmed reactivity	*Arabidopsis thaliana, Echinochloa crus-galli, Asterochloris erici* (lichen photobiont), *Zea mays*
Predicted reactivity	*Arachis hypogaea, Colobanthus quitensis Kunt Bartl, Hordeum vulgare, Mesembryanthemum crystallinum, Nicotiana tabacum, Oryza sativa, Pisum sativum, Phaseolus vulgaris, Solanum lycopersicum, Spinacia oleracea, Physcomitrella patens* Species of your interest not listed? Contact us
Not reactive in	No confirmed exceptions from predicted reactivity are currently known.
Selected references	Rudenko et al. (2019). The role of carbonic anhydrase Ã?Â±-CA4 in the adaptive reactions of photosynthetic apparatus: the study with Ã?Â±-CA4 knockout plants. Protoplasma (2019). https://doi.org/10.1007/s00709-019-01456-1 Vietoshkina et al. (2019). Comparison of State Transitions of the Photosynthetic Antennae in Arabidopsis and Barley Plants upon Illumination with Light of Various Intensity. Biochemistry (Moscow), Vol 84, Issue 9, pp 1065Ã¢??1073 Bychkov et al. (2019). Melatonin modifies the expression of the genes for nuclear- and plastid-encoded chloroplast proteins in detached Arabidopsis leaves exposed to photooxidative stress. Plant Physiology and Biochemistry, doi.org/10.1016/j.plaphy.2019.10.013. Gasulla et al. (2018). Chlororespiration induces non-photochemical quenching of chlorophyll fluorescence during darkness in lichen chlorobionts. Physiol Plant. 2018 Jun 27. doi: 10.1111/ppl.12792. Rantala and Tikkanen et al. (2018). Phosphorylation induced lateral rearrangements of thylakoid protein complexes upon light acclimation. Plant Direct Vol. 2, Issue 2. Rantala et al. (2017). Proteomic characterization of hierarchical megacomplex formation in Arabidopsis thylakoid membrane. Plant J. 2017 Dec;92(5):951-962. doi: 10.1111/tpj.13732. Fristedt et al. (2017). PSB33 sustains photosystem II D1 protein under fluctuating light conditions. Journal of Experimental Botany doi:10.1093/jxb/erx218. Sato et al. (2015). Chlorophyll b degradation by chlorophyll b reductase under high-light conditions. Photosynth Res. 2015 Apr 21. Leoni et al. (2013). Very rapid phosphorylation kinetics suggest a unique role for Lhcb2 during state transitions in Arabidopsis. Plant J. Oct;76(2):236-46. doi: 10.1111/tpj.12297. Epub 2013 Aug 26.

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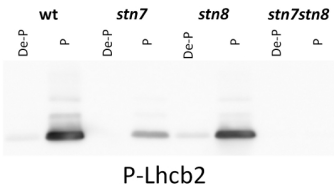
Application example



1 µg of thylakoid membranes isolated from *Arabidopsis thaliana* wild-type and respective mutants were solubilized with 3X LB (6 M urea, 12% SDS, 30% glycerol, 100 mM DTT, 150 mM Tris pH7.0, 0.8% Comassie G-250). 1 µg of total chlorophyll was loaded and separated on 16% SDS-PAGE, and then blotted for 2 h onto nitrocellulose membrane. Blots were blocked with milk powder for 2 h and then incubated in the primary antibody solution (AS13 2705, 1: 5 000) for 2.5 h, which was then decanted and the blot was washed 3 times for 5 min in TBST. Membrane was incubated in secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated) diluted to 1:10 000 in for 1 h, followed by washing steps as above. All the steps fallowing transfer were performed in room temperature (RT) with agitation. Membrane was developed for 5 min with ECL according to the manufacturer's instructions and recorded using FujiFilm CCD camera with 30 s increment time for around 5 min.

Courtesy of a phd candidate Małgorzata Pietrzykowska, Umeå Plant Science Centre, Sweden

1.0 µg of chlorophyll from mesophyll (M) and bundle sheath (BS) thylakoids of various treatments of *Zea mays* 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% BSA for 1h at room temperature (RT) with agitation. Blot was incubated in the primary antibody at a dilution of 1: 10 000 overnight at 4°C with agitation in 1% BSA 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 % BSA 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 54 seconds.

Courtesy Dr. Wiola Wasilewska, Faculty of Biology, University of Warsaw, Poland