

product **AS01 004**

Lhcb1 | LHCII type I chlorophyll a/b-binding protein

product information

background	The major light-harvesting antenna complex II (LHCII) in photosynthetic eukaryotes is located in the thylakoid membrane of the chloroplast. It is a heterotrimeric complex formed by up to 3 different individual subtypes of chlorophyll a/b-binding proteins: Lhcb1, Lhcb2, and Lhcb3. Lhcb1 is the most abundant chlorophyll a/b-binding protein in eukaryotic phototrophs and often is coded by several nuclear genes. A molecular characterisation of the LHCII proteins can be found in Caffari et al. (2004) A Look within LHCII: Differential Analysis of the Lhcb1–3 Complexes Building the Major Trimeric Antenna Complex of Higher-Plant Photosynthesis. Biochemistry 43 (29): 9467–9476
immunogen	BSA-conjugated synthetic peptide derived from a highly conserved sequence of Lhb1 proteins from angiosperms (monocots and dicots) and gymnosperms, including <i>Arabidopsis thaliana</i> At1g29910 (Lhcb1.1), At1g29920 (Lhcb1.2), At1g29930 (Lhcb1.3, most expressed), At2g34430 (Lhcb1.4), and At2g34420 (Lhcb1.5)
antibody format	rabbit polyclonal, affinity purified serum lyophilized
quantity	50 µg - 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 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.
tested applications	western blot (WB);
related products	AS01 004-10 Lhcb1 antibody, smaller pack size (10 µg) of AS01 004 AS01 004PRE Lhcb1 LHCII type I chlorophyll a/b-binding protein, pre-immune serum AS01 011 A set of 10 plant anti-Lhca and anti-Lhcb antibodies AS01 011 Chlamydomonas A set of anti-Lhc antibodies for <i>Chlamydomonas</i> Available antibodies against pigment-binding proteins- LHC recommended secondary antibody
additional information	

application information

recommended dilution	1 : 2000, detected with standard ECL (WB)
expected apparent MW	25 25 kDa for <i>Arabidopsis thaliana</i>
confirmed reactivity	<i>Arabidopsis thaliana</i>, <i>Arachis hypogaea</i>, <i>Colobanthus quitensis</i> Kunt Bartl, <i>Craterostigma pumilum</i>, <i>Hordeum vulgare</i>, <i>Lycopersicon esculentum</i> (<i>Solanum lycopersicon</i>), <i>Mesembryanthemum crystallinum</i>, <i>Nicotiana tabacum</i>, <i>Oryza sativa</i>, <i>Pisum sativum</i>, <i>Phaseolus vulgaris</i>, <i>Silene vulgaris</i>, <i>Spinacia oleracea</i>, <i>Zea mays</i>
predicted reactivity	<i>Triticum aestivum</i>, <i>Vitis vinifera</i>, <i>Brachypodium distachyon</i>, <i>Solanum tuberosum</i>, <i>Lotus japonicus</i>, <i>Cucumis sativus</i>, <i>Hordeum vulgare</i>, <i>Nicotiana tabacum</i>, <i>Aegilops tauschii</i>, angiosperms (monocots and dicots), gymnosperms, mosses

not reactive in | no confirmed exceptions from predicted reactivity known in the moment

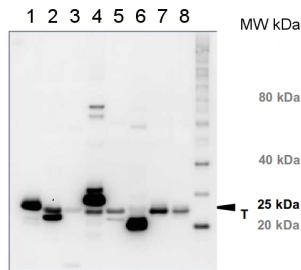
additional information

selected references

[Charuvi](#) et al. (2015). Photoprotection Conferred by Changes in Photosynthetic Protein Levels and Organization during Dehydration of a Homoiochlorophyllous Resurrection Plant. *Plant Physiol.* 2015 Apr;167(4):1554-65. doi: 10.1104/pp.114.255794.

[Sobrinho-Plata](#) et al. (2014). Glutathione is a key antioxidant metabolite to cope with mercury and cadmium stress. *Plant Soil*, DOI 10.1007/s11104-013-2006-4.

Application example



10 µg of total protein from **(1)** *Arabidopsis thaliana* leaf, **(2)** *Hordeum vulgare* leaf, **(3)** *Zea mays* leaf, **(4)** *Chlamydomonas reinhardtii* total cell, **(5)** *Spinacia oleracea* total leaf, **(6)** *Physcomitrella patens*, **(7)** *Solanum tuberosum* total leaf, **(8)** *Solanum esculentum* total leaf, all extracted with Protein Extraction Buffer PEB ([AS08 300](#)) were separated on 4-12% NuPage (Invitrogen) LDS-PAGE and blotted 1h to PVDF. Blots were blocked immediately following transfer in 2-2.5 % RPN2125 (GE Healthcare) 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, recommended secondary antibody AS09 602) diluted to 1:25 000 in TBS-T for 1h at room temperature with agitation. The blots were washed as above and developed for 5 min with TMA-6 (Lumigen) 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). Exposure time was 2 minutes.