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.


Immunogen
BSA-conjugated synthetic peptide derived from a highly conserved sequence of Lhb1 proteins from angiosperms (monocots and dicots) and gymnosperms, including Arabidopsis thaliana At1g29910 (Lhcb1.1), At1g29920 (Lhcb1.2), At1g29930 (Lhb1.3, most expressed), At2g34430 (Lhcb1.4), and At2g34420 (Lhcb1.5)

Host
Rabbit

Clonality
Polyclonal

Purity
Affinity purified serum

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 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 | Anti-Lhcb1 | LHCII type I chlorophyll a/b-binding protein, rabbit antibodies
AS01 004P | Lhcb1 | LHCII type I chlorophyll a/b-binding protein, pre-immune serum for control in immunolocalization
AS01 011 | 2 | Set of 10 plant anti-Lhca and anti-Lhcb rabbit antibodies
AS01 011 CHLAMYDOMONAS | 2 | Set of 4 Chlamydomonas anti-Lhc rabbit antibodies
Plant protein extraction buffer

Application information

Recommended dilution
1 : 2000 (WB)

Expected | apparent MW
28 | 25 kDa for Arabidopsis thaliana

Confirmed reactivity
Arabidopsis thaliana, Arachis hypogaea, Chlorella vulgaris, Colobanthus quitensis, Kunt Bartl, Craterostigma plumulm, Hordeum vulgare, Lycopersicon esculentum (Solanum lycopersicon), Mesembryanthemum crystallinum, Nicotiana tabacum, Oryza sativa, Pisi sativum, Phaseolus vulgaris, Rheoe discolor, Silene vulgaris, Sinapis alba, Spinacia oleracea, Triticum aestivum, Zea mays

Predicted reactivity
Aegilops tauschii, Catalpa bungei, Cucumis sativus, Brachypodium distachyon, Lotus japonicus, Hordeum vulgare, Musa acuminata, Nicotiana tabacum, Physcomitrella patens, Solanum tuberosum, Zpeteria marina, Vitis vinifera
Not reactive in
No confirmed exceptions from predicted reactivity are currently known.

Additional information
This antibody is provided as a total IgG fraction, e.g. serum purified on Protein G to total immunoglobulin.
Lhcb1 Protein is processed into mature form (Jansson 1999).

Selected references
Giovanardi et al. (2018). In pea stipules a functional photosynthetic electron flow occurs despite a reduced
dynamics of LHCII association with photosystems. Biochim Biophys Acta. 2018 May 24. pii:
S0005-2728(18)30129-4. doi: 10.1016/j.bbapap.2018.05.013.

Myouga et al. (2018). Stable accumulation of photosystem II requires ONE-HELIX PROTEIN1 (OHP1) of the light


Yang-Er Chen et al. (2017). Responses of photosystem II and antioxidative systems to high light and high

Mazur et al. (2016). Overlapping toxic effect of long term thallium exposure on white mustard (Sinapis alba L.)

Kowalewska et al. (2016). Three-dimensional visualization of the internal plastid membrane network during runner
tpc.01053.2015.

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 % 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,
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 chemiluminescent 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.