**product AS04 045**  
Lhcb4 | CP29 chlorophyll a/b binding protein of plant PSII

### product information

**Background**  
Lhcb4 (CP29) is one of the 3 minor chlorophyll a/b-binding proteins associated with Photosystem II in plants and algae. Lhcb4 has been suggested to act in the regulation of the chlorophyll a excited state concentration of PSII because of its ability of sensing lumenal pH resulting in reversible phosphorylation. In *Arabidopsis thaliana* 2 genes code for two isoforms Lhcb4.1 and Lhcb4.2. A third isoform (Lhcb4.3, At2g40100), probably only present in dicots, has been found to be differently regulated and therefore has been denoted as Lhcb8.

**Immunogen**  
BSA-conjugated synthetic peptide derived from a highly conserved sequence of Lhb4 proteins from angiosperms (monocots and dicots) and gymnosperms, including *Arabidopsis thaliana* (Lhcb4.1 At5g01530 and Lhcb4.2 At3g09490 and Lhcb4.3 At2G40100).

**Host**  
Rabbit

**Clonality**  
Polyclonal

**Purity**  
Total IgG

**Format**  
Lyophilized in PBS pH 7.4

**Quantity**  
200 µl

**Reconstitution**  
For reconstitution add 200 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**  
- **AS06 117** Lhcb4 | CP29 (Lhcb4) homolog, Chlamydomonas
- **LHC** available antibodies against pigment-binding proteins
- **PSII** available antibodies against Photosystem II proteins
- **AS04 045PRE** Lhcb4 | CP29 chlorophyll a/b binding protein of plant PSII, pre-immune serum
- **Plant protein extraction buffer**
- **Secondary antibodies**

**Additional information**  
An overview about the different Lhc-protein types in plants can be found in Klimmek et al. (2006) Abundantly and rarely expressed Lhc protein genes exhibit distinct regulation patterns in plants. Plant Physiol 140: 793-804.

### Application information

**Recommended dilution**  
1:7 000 (WB)

**Expected | apparent MW**  
31.9 | 29 kDa for *Arabidopsis thaliana*

**Confirmed reactivity**  

**Predicted reactivity**  
*Cucumis sativus*, *Populus*, gymnosperms and microalgae *Ostreococcus tauri*; the target sequence is only weakly conserved in *Physcomitrella patens*

**Not reactive in**  
*Chlamydomonas reinhardtii* (please use **AS06 117** for this organism)

**Additional information**  
For image of detection please refer to Kusaba et al. (2007).
Protein is processed into mature form (Jansson 1999).

Selected references


Application example

5 µg of total protein from embebed seeds of Nicotiana tabacum growing during 4 d in dark (0) and then transfer to continue light growing for 6 h (6) extracted with LB2x buffer and denatured 90 ºC for 2-5 min, were separated on 12.5 % SDS-PAGE and blotted 1h to PVDF using tank transfer. Blots were blocked with TBS-T with 5% dry-milk for 3h at room temperature (RT) with agitation. Blot was incubated in the primary antibody at a dilution of 1: 10 000 overnight at 4 ºC with agitation in TBS-T with 5% dry-milk. The antibody solution was decanted and the blot was rinsed briefly twice, then washed 4 times for 15 min in TBS-T at RT with agitation. Blot was incubated in secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated, from Agrisera) diluted to 1:30 000 in TBS-T with 5% dry-milk for 1h at RT with agitation. The blot was washed as above and developed for 5 min with ECL Plus western blotting detection system by GE Healthcare. Exposure time was 60 seconds.

Courtesy of Dr. Concha Almoguera, Inst. de Recursos Naturales y Agrobiología –CSIC, Spain