**product AS04 038**  
PsbB | CP47 protein of PSII

**product information**

- **Background**: PsbB (CP47) is a chlorophyll-binding protein located in the membrane, where it serves as the core antenna of Photosystem II.
- **Immunogen**: KLH-conjugated synthetic peptide derived from available plant, algal and cyanobacterial PsbB sequences including Arabidopsis thaliana AtCg00680, Hordeum vulgare P10900, Oryza sativa P0C364, Synechocystis PCC 6803 P05429
- **Host**: Rabbit
- **Clonality**: Polyclonal
- **Purity**: Serum
- **Format**: Lyophilized
- **Quantity**: 50 µl
- **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**:  
  - AS04 038S | PsbB protein standard for quantitation and positive control is discontinued. We recommend to use PsbD | D2 together with PsbD antibody
  - AS04 038PRE | PsbB | CP47 protein of PSII, pre-immune serum  
  - antibodies to other PSII proteins recommended secondary antibody
  - Plant and algal protein extraction buffer
  - Secondary antibodies
- **Additional information**: This antibody can be used as a loading control for studies of PSIi or photosynthetic acclimation in diatoms Blommaert et al. 2017. Limnol. Oceanogr. DOI: 10.1002/ino.10511.
  
  This product can be sold containing ProClin if requested.

**Application information**

- **Recommended dilution**: 1 : 2000 (WB)
- **Expected | apparent MW**: 56 kDa
- **Confirmed reactivity**: Anabaena 7120, Arabidopsis thaliana, Chlamydomonas reinhardtii, Echinochloa crus-galli, Hordeum vulgare, Malus prunifolia, Opephora guenter-grassii (diatom), Oryza sativa, Panicum miliaceum, Phaseolus vulgaris, Physcomitrella patens, Pisum sativum, Synechococcus PCC7942, 6803, . Seminavis robusta (diatom), Zea mays
- **Predicted reactivity**: Abies concolor, Brachypodium distachyon, Brassica napus, Cannabis sativa, Cyanobacteria, Cucumis sativus, Ephedra sp., Glycine max, Lotus japonicus, Nanochloropsis sp. , Nicotiana tabacum, Panax ginseng, Populus trichocarpa, Solanum tuberosum, Sorghum bicolor, Spinacia oleracea, Triticum aestivum, Vitis vinifera
- **Not reactive in**: No confirmed exceptions from predicted reactivity are currently known.
- **Additional information**: This product can be sold containing ProClin if requested
Selected references


Application example

2 µg of total protein from (1) Arabidopsis thaliana leaf extracted with PEB (AS08 300), (2) Hordeum vulgare leaf extracted with PEB (AS08 300), (3) Chlamydomonas reinhardtii total cell extracted with PEB (AS08 300), (4) Synechococcus sp. 7942 total cell extracted with PEB (AS08 300), (5) Anabaena sp. total cell extracted with 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% ECL Advance blocking reagent (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: 50 000 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 1:50 000 in 2% ECL Advance detection reagent according to the manufacturers instructions. Images of the blots were obtained using a CCD imager (FluorSMax, Bio-Rad) and Quantity One software (Bio-Rad).

Application example

0.2 µg of chlorophyll from (4,5) Arabidopsis thaliana leaf extracted with PEB (AS08 300), (1) 500 fmol of PsbB protein standard, (2) 200 fmol of PsbB protein standard, (3) 75 fmol of PsbB protein standard were separated on 4-12% NuPage (Invitrogen) LDS-PAGE and blotted 1h to PVDF. Blots were blocked immediately following transfer in 2% ECL Advance blocking reagent (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: 50 000 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) diluted to 1:50 000 in 2% ECL Advance detection reagent according to the manufacturers instructions. Images of the blots were obtained using a CCD imager (FluorSMax, Bio-Rad) and Quantity One software (Bio-Rad).
2.0 µg of chlorophyll from *Pisum sativum* chloroplasts and from *Zea mays*, *Echinochloa crus-galli*, *Panicum miliaceum* mesophyll and bundle sheath 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. 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% milk in TBS for 2h at room temperature (RT) with agitation. Blot was incubated in the primary antibody AS04 038 at a dilution of 1: 2000 overnight at 4°C with agitation in 1% milk 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% 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% H2O2 in 0.1 M Tris- HCl, pH 8.5. Exposure time in ChemiDoc System was 122 seconds.

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