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product **AS06 167**

PsbP | 23 kDa protein of the oxygen evolving complex (OEC) of PSII

product information

background	**PsbP** - 23 kDa extrinsic protein of photosystem II (PSII). Processing of the protein results in a protein with molecular mass of around 20 kDa. PsbP is required to optimize water splitting process in PSII, by probaböy by optimisation of calcium and Cl- levels. The protein is found in higher plants and algae but is not conserved in cyanobacteria. Synonymes:Oxygen-evolving enhancer protein 2-1, chloroplastic, OEE2, 23 kDa subunit of oxygen evolving system of photosystem II, OEC 23 kDa subunit, OEC23, 23 kDa thylakoid membrane protein
immunogen	KLH-conjugated synthetic peptide derived from PsbP protein of *Arabidopsis thaliana* Q42029
antibody format	rabbit polyclonal serum lyophilized
quantity	100 µl for reconstitution add 100 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)
additional information	to be added when available

application information

recommended dilution	1 : 2000 with standard ECL (WB)
expected | apparent MW	28 | 23 kDa (*Arabidopsis thaliana*)
confirmed reactivity	*Arabidopsis thaliana, Hordeum vulgare, Nicotiana tabacum, Pisum sativum, Physcomitrella patens*
predicted reactivity	dicots including: *Solanum tuberosum*, monocots including: *Oryza sativa*, *Triticum aestivum*, trees: *Picea sitchenisis*, *Populus balsamifera*, moss:
not reactive in	*Chlamydomonas reinhardtii*, *Synechococcus* sp. PCC 7942
additional information	to be added when available
selected references	Lang, E.G.E., S.J. Mueller, S.N.W. Hoernstein, J. Porankiewicz-Asplund, M. Vervliet-Scheebaum, R. Reski (2010). Simultaneous isolation of pure and intact chloroplasts and mitochondria from moss as basis for sub-cellular proteomics. Plant Cell Reports, DOI: 10.1007/s00299-010-0935-4. (open source)

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Wang et al. (2008). Beta-lactone probes identify a papain-like peptide ligase in *Arabidopsis thaliana*. Nat Chem Biol. 9: 557-563.

application example

2 µg of total protein from (**1**) *Arabidopsis thaliana* leaf extracted with **P**rotein **E**xtration **B**uffer, PEB (**AS08 300**), (**2**) *Hordeum vulgare* leaf extracted with PEB, (**3**) *Chlamydomonas reinhardtii* total cell extracted with PEB, (**4**) *Synechococcus* sp. 7942 total cell extracted with PEB, 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, from Abcam) diluted to 1:10 000 in 2% ECL Advance blocking solution for 1h at room temperature with agitation. The blots were washed as above and developed for 5 min with ECL Advance 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).