

Product no **AS01 005****Lhca1 | PSI type I chlorophyll a/b-binding protein****Product information**

Immunogen | BSA-conjugated synthetic peptide derived from the Lhca1 protein of *Arabidopsis thaliana* UniProt: [Q01667](#), TAIR: [At3g54890](#). This sequence is highly conserved in Lhca1 proteins of angiosperms (monocots and dicots) and gymnosperms.

Host | Rabbit

Clonality | Polyclonal

Purity | Total IgG. Protein G purified in PBS pH 7.4.

Format | Lyophilized

Quantity | 0.5 mg

Reconstitution | 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 the tubes briefly prior to opening them to avoid any losses that might occur from material adhering to the cap or sides of the tube.

Additional information | Antibody format is a [total IgG fraction](#), which means that it is a pool of polyclonal antibodies obtained by purification of serum on Protein G, not on a specific antigen column.

This product can be sold containing ProClin if requested.

Application information

Recommended dilution | 1 : 2000-1 : 5000 (WB)

Expected | apparent MW | 25.99 | 22 kDa for *Arabidopsis thaliana*

Confirmed reactivity | *Arabidopsis thaliana*, *Arachis hypogaea*, *Bryopsis corticulans*, *Citrus reticulata*, *Colobanthus quitensis* Kunt Bartl, *Echinochloa crus-galli*, *Fortunella margarita* Swingle, *Guzmania hybrid*, *Hordeum vulgare*, *Lycopersicon esculentum* (*Solanum lycopersicum*), *Nicotiana tabacum*, *Oryza sativa*, *Panicum miliaceum*, *Picrorhiza kurroa*, *Physcomitrium patens*, *Pinus strobus*, *Pisum sativum*, *Phaseolus vulgaris*, *Posidonia oceanica*, *Solanum lycopersicum*, *Spinacia oleracea*, *Tillandsia flabellata*, *Triticale*, *Triticum aestivum*, *Zea mays*

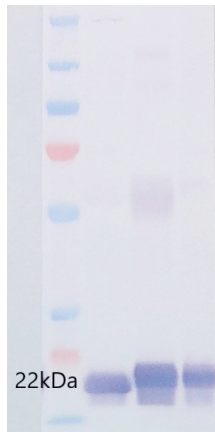
Predicted reactivity | Dicots, Gymnosperms

Not reactive in | No confirmed exceptions from predicted reactivity are currently known

Additional information | Protein is processed into mature form ([Jansson 1999](#)).

Selected references | [Hu et al. \(2023\)](#). Drought affects both photosystems in *Arabidopsis thaliana*. *New Phytol.* 2023 Oct;240(2):663-675. doi: 10.1111/nph.19171. Epub 2023 Aug 2.
[Harchouni et al. \(2022\)](#) Guanosine tetraphosphate (ppGpp) accumulation inhibits chloroplast gene expression and promotes super grana formation in the moss *Physcomitrium* (*Physcomitrella*) *patens*. *New Phytol.* 2022;236(1):86-98. doi:10.1111/nph.18320
[Espinoza-Corral & Lundquist. \(2022\)](#) The plastoglobule-localized protein AtABC1K6 is a Mn²⁺-dependent kinase necessary for timely transition to reproductive growth. *J Biol Chem.* 2022 Apr;298(4):101762. doi: 10.1016/j.jbc.2022.101762. Epub 2022 Feb 22. PMID: 35202657; PMCID: PMC8956952.
[Sarvari et al. \(2022\)](#). Qualitative and quantitative evaluation of thylakoid complexes separated by Blue Native PAGE. *Plant Methods.* 2022 Mar 3;18(1):23. doi: 10.1186/s13007-022-00858-2. PMID: 35241118; PMCID: PMC8895881.
[Xiong et al. \(2022\)](#) a chloroplast nucleoid protein of bacterial origin linking chloroplast transcriptional and translational machineries, is required for proper chloroplast gene expression in *Arabidopsis thaliana*. *Nucleic Acids Res.* 2022 Jun 23;50(12):6715-34. doi: 10.1093/nar/gkac501. Epub ahead of print. PMID: 35736138; PMCID: PMC9262611.
[Kumari et al. \(2021\)](#) In-depth assembly of organ and development dissected *Picrorhiza kurroa* proteome map using mass spectrometry. *BMC Plant Biol.* 2021 Dec 22;21(1):604. doi: 10.1186/s12870-021-03394-8. PMID: 34937558; PMCID: PMC8693493.

Application example

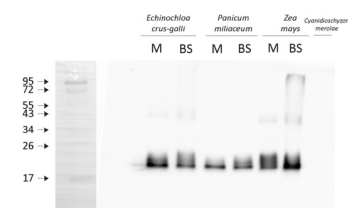


Samples:

- 1 - MW marker
- 2 - 10 µg of *Arabidopsis thaliana* whole leaf extract
- 3 - 10 µg of *Zea mays* whole leaf extract
- 4 - 10 µg of *Solanum lycopersicum* whole leaf extract

10 µg/well of total protein extracted from , total cell extract, stored at -80°C. Exact buffer components were: and denatured with Invitrogen LDS sample buffer (4X) at 70°C/5 min. Samples were separated on Invitrogen NuPage Bis-Tris 4-12% SDS-PAGE and blotted for 1 h to Invitrogen PVDF (pore size of 0.45 µm), using: wet transfer. Blot was blocked with 5% milk in TBS-T for: ON/4°C with agitation. Blot was incubated in the primary antibody at a dilution of 1: 1000 for 1h/RT with TBS-T Blocking. The antibody solution was decanted, and the blot was rinsed briefly twice, then washed once for 10 min and 2 times for 5 min in TBS-T at RT with agitation. Blot was incubated in matching secondary antibody (anti-rabbit IgG ALP conjugated, [AS09_607](#) lot 2105) diluted to 1: 1 000 in TBS-T Blocking for 50 min/RT with agitation. The blot was washed as above and developed with Agrisera [AS19 BCIP-NBT-PLUS](#) lot 09269221 for 30 seconds. As soon as the desired band is detectable, briefly wash the membrane in generous amounts of deionized water. Transfer the membrane to fresh deionized water and incubate for 2 minutes with agitation. Change the water and incubate again for 5 minutes with agitation before placing the membrane on Whatman paper to dry. Image was captured after 1h.

Courtesy Agrisera



1.0 µg of chlorophyll from mesophyll (M) and bundle sheath (BS) thylakoids of various C4 plants (*Echinochloa crus-galli*, *Panicum miliaceum*, *Zea mays*) extracted with 0.4 M sorbitol, 50 mM Hepes NaOH, pH 7.8, 10 mM NaCl, 5 mM MgCl₂ 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 for 1h at room temperature (RT) with agitation. Blot was incubated in the primary antibody 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](#), Lot 1702) 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 15 seconds.

Courtesy of Dr. Wioleta Wasilewska, Warsaw University, Poland