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product **AS14 2766** **LHCSR3**

product information

Background	LHCSR3 (Stress-related chlorophyll a/b binding protein 3) plays a role in an efficient energy dissipation process, called non-photochemical quenching (NPQ), in <i>Chlamydomonas reinhardtii</i> .
Immunogen	<u>KLH</u> -conjugated synthetic peptide derived from LHCSR3 protein sequence from <i>Chlamydomonas reinhardtii</i> , UniProt: A8J431
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	ELISA (ELISA), Western blot (WB)
Related products	AS14 2819 Anti-LhcSR1, rabbit antibodies AS15 3081 Anti-LhcSR (<i>Physcomitrella patens</i>), rabbit antibodies anti-LHC available antibodies against pigment-binding proteins including <i>Chlamydomonas reinhardtii</i> Collection of antibodies to Chlamydomonas proteins Algal protein extraction buffer Secondary antibodies

Application information

Recommended dilution	1 : 1000 (WB)
Expected apparent MW	28 kDa
Confirmed reactivity	<i>Bryopsis corticulans</i> , <i>Chlamydomonas reinhardtii</i> , <i>Nannochloropsis gaditana</i>
Predicted reactivity	<i>Phaeodactylum tricornutum</i>
Not reactive in	<i>Arabidopsis thaliana</i> , <i>Neochloris oleoabundans</i> , <i>Physcomitrella patens</i>
Additional information	Antibody is also recognizing recombinant LHCSR3
Selected references	Aihara et al. (2019) . Algal photoprotection is regulated by the E3 ligase CUL4-DDB1DET1. <i>Nat Plants</i> . 2019 Jan;5(1):34-40. doi: 10.1038/s41477-018-0332-5. Jokel et al. (2018) . Hunting the main player enabling <i>Chlamydomonas reinhardtii</i> growth under fluctuating light. <i>Plant J</i> . 2018 Mar 25. doi: 10.1111/tpj.13897. Kosuge et al. (2018) . LHCSR1-dependent fluorescence quenching is mediated by excitation energy transfer from LHCII to photosystem I in <i>Chlamydomonas reinhardtii</i> . <i>Proc Natl Acad Sci U S A</i> . 2018 Apr 3;115(14):3722-3727. doi: 10.1073/pnas.1720574115. Giovagnetti et al. (2018) . A siphonous morphology affects light-harvesting modulation in the intertidal green macroalga <i>Bryopsis corticulans</i> (Ulvophyceae). <i>Planta</i> . 2018 Feb 19. doi: 10.1007/s00425-018-2854-5.

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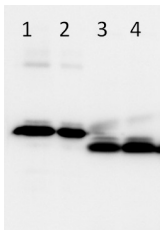
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- [Chukhutsina et al. \(2017\)](#). Photoprotection strategies of the alga *Nannochloropsis gaditana*. *Biochim Biophys Acta*. 2017 Jul;1858(7):544-552. doi: 10.1016/j.bbabi.2017.05.003.
- [Chaux et al. \(2017\)](#). Flavodiiron Proteins Promote Fast and Transient O₂ Photoreduction in *Chlamydomonas*. *Plant Physiol*. 2017 Jul;174(3):1825-1836. doi: 10.1104/pp.17.00421.
- [Wei et al. \(2017\)](#). Light Intensity is Important for Hydrogen Production in NaHSO₃-Treated *Chlamydomonas reinhardtii*. *Plant Cell Physiol*. 2017 Mar 1;58(3):451-457. doi: 10.1093/pcp/pcw216.
- [Garibay-Hernández et al. \(2016\)](#). Membrane proteomic insights into the physiology and taxonomy of an oleaginous green microalga. *Plant Physiol*. 2016 Nov 8. pii: pp.01240.2016. [Epub ahead of print]
- [Haraldsdóttir \(2016\)](#). Protection against UV rays and other desirable biological activity in *Chlorella* sp. and *Phaeodactylum tricornutum*.

Application example



Following samples: 0.1 µg of LhcSR3 IB + HisTag **(1)**, 0.05 µg of LhcSR3 IB + HisTag **(2)**, 5 µg of *Chlamydomonas reinhardtii* wild type (CC124) total protein extract of photoautotrophically grown cells in light intensity: 60 µE **(3)**, 5 µg of *Chlamydomonas reinhardtii* wild type (CC124) total protein extract of photoautotrophically grown cells in high light intensity: 500 µE **(4)** were separated on 15% Tris-Glycine SDS PAGE and blotted overnight to PVDF using tank transfer. Blots were blocked with 5% BSA/milk for 1h at room temperature (RT) with agitation. Blot was incubated in the primary antibody at a dilution of 1: 1 000 for 1h at RT 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 PBS-T at RT with agitation. Blot was incubated in secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated, from Agrisera, [AS09_602](#)) diluted to 1:10 000 for 1h at RT with agitation. The blot was washed as above and developed for 5 min with ECL according to the manufacturer's instructions.

Courtesy Dr. Roberta Croce, Biophysics of Photosynthesis Dep. Physics and Astronomy Faculty of Sciences VU University Amsterdam, The Netherlands