

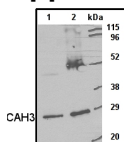
Product no **AS05 073****CAH3 | Carbonic anhydrase****Product information**

Immunogen	Recombinant carbonic anhydrase of <i>Chlamydomonas reinhardtii</i> A8J4Z8 after cleavage of a fusion protein
Host	Rabbit
Clonality	Polyclonal
Purity	Serum
Format	Lyophilized
Quantity	50 µl
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.

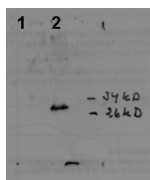
Additional information | This antibody recognizes native and recombinant carbonic anhydrase of *Chlamydomonas reinhardtii*.

Application information

Recommended dilution	1 : 200 (IF), 1 : 2000 (WB)
Expected apparent MW	33.4 29 kDa
Confirmed reactivity	<i>Chlamydomonas reinhardtii</i>
Predicted reactivity	<i>Chlamydomonas reinhardtii</i> (only)
Not reactive in	<i>Arabidopsis thaliana</i> , <i>Oryza sativa</i>
Selected references	<p>Terentyev and Shukshina (2024). CAH3 from <i>Chlamydomonas reinhardtii</i>: Unique Carbonic Anhydrase of the Thylakoid Lumen. <i>Cells</i> 2024, 13(2), 109.</p> <p>Burlacot et al. (2022) Alternative photosynthesis pathways drive the algal CO₂-concentrating mechanism. <i>Nature</i> 605, 366–371 (2022). https://doi.org/10.1038/s41586-022-04662-9</p> <p>Shukshina & Terentyev (2021) Involvement of Carbonic Anhydrase CAH3 in the Structural and Functional Stabilization of the Water-Oxidizing Complex of Photosystem II from <i>Chlamydomonas reinhardtii</i>. <i>Biochemistry Moscow</i> 86, 867–877 (2021). https://doi.org/10.1134/S0006297921070075</p> <p>Terentyev (2020): The Main Structural and Functional Characteristics of Photosystem-II-Enriched Membranes Isolated From Wild Type and <i>cia3</i> Mutant <i>Chlamydomonas reinhardtii</i>. <i>Life</i> (Basel). 2020 May 14;10(5):E63. doi: 10.3390/life10050063.</p> <p>Terentyev et al. (2019). Carbonic anhydrase CAH3 supports the activity of photosystem II under increased pH. <i>Biochim Biophys Acta Bioenerg.</i> 2019 Jul 1;1860(7):582-590. doi: 10.1016/j.bbabo.2019.06.003.</p> <p>Correa-Galvis et al. (2016). Photosystem II Subunit PsbS Is Involved in the Induction of LHCSR Protein-dependent Energy Dissipation in <i>Chlamydomonas reinhardtii</i>. <i>J Biol Chem.</i> 2016 Aug 12;291(33):17478-87. doi: 10.1074/jbc.M116.737312.</p>

Application example

(1) *Chlamydomonas reinhardtii* thylakoid preparation, (2) overexpressed carbonic anhydrase, primary antibody used in 1 : 2000 dilution. Secondary antibodies anti-rabbit IgG. used at 1 : 10 000 with chemiluminescent detection.



20 µg/ml of chlorophyll from *Chlamydomonas reinhardtii* Cah3-less mutant **(1)**, and 15 µg/ml of chlorophyll from *Chlamydomonas reinhardtii* wild-type **(2)**, extracted with 4x Laemmli were separated on 12 % SDS-PAGE and blotted 2h to nitrocellulose filter using tank transfer. Blots were blocked with 5% milk powder for 2h at room temperature (RT) with agitation. Blot was incubated in the primary antibody at a dilution of 1: 1 000 for overnight at 8°C with agitation. The antibody solution was decanted and the blot was rinsed briefly, then washed once for 15 min and 3 times for 20 min each 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 1:20 000 in for 1h at RT with agitation. The blot was washed as above and developed for 1 min with chemiluminescent detection reagent, according to the manufacturer's instructions. Exposure time was 10min. MW standards used, Page ruler, pre-stained from ThermoFisher.

Courtesy of Dr. Göran Samuelsson, Umeå Plant Science Centre, Sweden