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contact: support@agrisera.com

Agrisera AB | Box 57 | SE-91121 Vännäs | Sweden | +46 (0)935 33 000 | www.agrisera.com

Anti-AtpC | Gamma subunit of ATP synthase (chloroplasic)

Product information

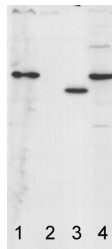
Immunogen	KLH-conjugated peptide, derived from C-terminal part of <i>Chlamydomonas reinhardtii</i> protein sequence A8HXL8
Host	Rabbit
Clonality	Polyclonal
Purity	Serum
Format	Lyophilized
Quantity	100 µl
Reconstitution	For reconstitution add 100 µl of sterile water
Storage	Store lyophilized/reconstituted 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 product can be sold containing ProClin if requested

Application information

Recommended dilution	1: 1000 (ELISA), 1: 10 000 (WB)
Expected apparent MW	35.3 42 (<i>Chlamydomonas reinhardtii</i>) 35.6 38 (<i>Spinacia oleracea</i>)
Confirmed reactivity	<i>Arabidopsis thaliana</i> , <i>Chlamydomonas reinhardtii</i> , <i>Chlorella sorokiniana</i> , <i>Chlorella vulgaris</i> , <i>Echinochloa crus-galli</i> , <i>Phycomitrella patens</i> , <i>Pisum sativum</i> , <i>Zea mays</i>
Predicted reactivity	<i>Arachis hypogaea</i> , <i>Auxenochlorella protothecoides</i> , <i>Bathycoccus prasinus</i> , <i>Cephalotus follicularis</i> , <i>Cicer arietinum</i> , <i>Coccomyxa subellipsoidea</i> (strain C-169), <i>Cucumis melo</i> , Cyanobacteria, <i>Cynara cardunculus</i> var. <i>scolymus</i> , <i>Daucus carota</i> subsp. <i>sativus</i> , <i>Dendrobium catenatum</i> , <i>Fagus sylvatica</i> , <i>Genlisea aurea</i> , <i>Glycine max</i> , <i>Gossypium hirsutum</i> , <i>Jatropha curcas</i> , <i>Juglans regia</i> , <i>Klebsormidium flaccidum</i> , <i>Helianthus annuus</i> , <i>Lactuca sativa</i> , <i>Lens culinaris</i> , <i>Lupinus angustifolius</i> , <i>Manihot esculenta</i> , <i>Marchantia polymorpha</i> subsp. <i>ruderalis</i> , <i>Medicago truncatula</i> , <i>Micromonas pusilla</i> (strain CCMP1545), <i>Monoraphidium neglectum</i> , <i>Morus notabilis</i> , <i>Nelumbo nucifera</i> , <i>Nicotiana sylvestris</i> , <i>Nicotiana tabacum</i> , <i>Ostreococcus tauri</i> , <i>Punica granatum</i> , <i>Phaseolus vulgaris</i> , <i>Pisum sativum</i> , <i>Populus jackii</i> , <i>Populus trichocarpa</i> , <i>Prunus persica</i> , <i>Ricinus communis</i> , <i>Rosa chinensis</i> , <i>Selaginella moellendorffii</i> , <i>Spinacia oleracea</i> , <i>Solanum lycopersicum</i> , <i>Solanum tuberosum</i> , <i>Terma orientalis</i> , <i>Tetraselmis</i> sp. GSL018, <i>Theobroma cacao</i> , <i>Trifolium pratense</i> , <i>Zostera marina</i> , <i>Vigna unguiculata</i> , <i>Vitis vinifera</i> , <i>Volvox carteri</i> f. <i>nagariensis</i> , <i>Quercus suber</i>
	Species of your interest not listed? Contact us
Not reactive in	<i>Phaeodactylum tricorutatum</i>
Additional information	Apparent molecular weight of subunit gamma (and as general rule most of ATP synthase subunits) is quite different between <i>Chlamydomonas</i> (42 kDa) and higher plants (38 kDa in spinach), see figure in Lemaire et al. (1989).
Selected references	Kafri et al. (2023). Systematic identification and characterization of genes in the regulation and biogenesis of photosynthetic machinery. Cell. 2023 Dec 7;186(25):5638-5655.e25.doi: 10.1016/j.cell.2023.11.007. Pipitone et al. (2021). A multifaceted analysis reveals two distinct phases of chloroplast biogenesis during de-etiolation in Arabidopsis. Elife. 2021 Feb 25;10:e62709. doi: 10.7554/eLife.62709. PMID: 33629953; PMCID: PMC7906606. Storti et al. (2020). The activity of chloroplast NADH dehydrogenase-like complex influences the photosynthetic activity of the moss Physcomitrella patens. doi.org/10.1101/2020.01.29.924597 Pralon et al. (2019). Plastoquinone homeostasis by Arabidopsis proton gradient regulation 6 is essential for photosynthetic efficiency. Commun Biol. 2019 Jun 20;2:220. doi: 10.1038/s42003-019-0477-4. Li et al. (2019). A genome-wide algal mutant library and functional screen identifies genes required for eukaryotic photosynthesis. Nat Genet. 2019 Apr;51(4):627-635. doi: 10.1038/s41588-019-0370-6. Liang et al. (2018). Thylakoid-Bound Polysomes and a Dynamin-Related Protein, FZL, Mediate Critical Stages of the Linear Chloroplast Biogenesis Program in Greening Arabidopsis Cotyledons. Plant Cell. 2018 Jul;30(7):1476-1495. doi: 10.1105/tpc.17.00972. Epub 2018 Jun 7.

Application example



10 ug of chlorophyll/well of *Chlamydomonas reinhardtii* total cell extract (1), *Chlamydomonas reinhardtii* subunit gamma deletion mutant thylakoid membrane fraction (2), *Arabidopsis thaliana* thylakoid membrane fraction (3), *Chlamydomonas reinhardtii* thylakoid membrane preparation (4) were separated on 12-18% acrylamide-8M urea gel and blotted to nitrocellulose membrane. Filters were blocked 1 h with 5% dry milk in 1 x PBS and probed with anti-ATP synthase subunit gamma antibody (**AS08 312**, 1: 25 000, 1h) and secondary HRP-conjugated anti-rabbit antibody (1: 10 000, 1 h) in 1 x PBS containing 5% dry milk. All steps were performed at RT with agitation. Signal was detected with chemiluminescent detection reagent, exposure time 30'' and 3 min (overexposed).

Arabidopsis membrane preparation has been done according to [Lezhneva et al. \(2008\)](#) A novel pathway of cytochrome c biogenesis is involved in the assembly of the cytochrome b6f complex in *arabidopsis* chloroplasts. J Biol. Chem., 283:24608-24616 and *Chlamydomonas* membranes were prepared according to [Chua & Bennoun \(1975\)](#) Thylakoid membrane polypeptides of *Chlamydomonas reinhardtii*: wild-type and mutant strains deficient in photosystem II reaction center. PNAS 72:2175-2179

Courtesy Dr. Yves Choquet, French National Centre for Scientific Research, France