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**Product no AS05 085**

# Anti-AtpB | Beta subunit of ATP synthase (chloroplastic + mitochondrial) (rabbit antibodies)

## Product information

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| **Immunogen** | KLH-conjugated synthetic peptide derived from available plant, algal (chloroplastic and mitochondrial) and bacterial sequences of beta subunits of F-type ATP synthases, including *Arabidopsis thaliana* chloroplastic ATP synthase subunit beta UniProt: P19366, TAIR: AtCg00480 and *Arabidopsis thaliana* mitochondrial ATP synthase subunit beta-1, UniProt: P83483, TAIR: At5g08670 as well as *Chlamydomonas reinhardtii,* UniProt: P06541 and A8IQU3 |
| **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 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** | The anti-AtpB antibody will detect the mitochondrial form of the F1 ATP synthase subcomplex, as well as the chloroplastic CF1 Atp Synthase, and most known bacterial F-type Atp Synthases. Peptide used for antibody production is located in a beta sheet, which is partly exposed near the surface of the AtpB protein.<br><br>Anti-AtpB antibody was used as a loading control in *Chlamydomonas reinhardtii* and *Synechocystis* sp. PCC6803.<br><br>This product can be sold containing proclin if requested |

## Application information

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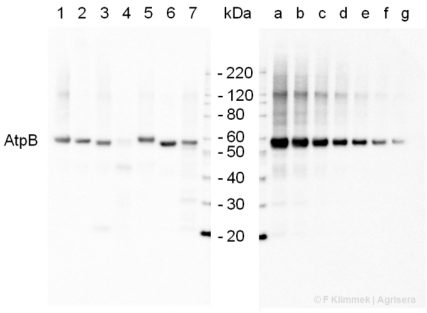
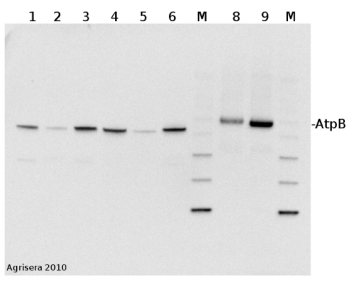
| **Recommended dilution** | 1 : 100 (IF), 1 : 5000 (BN-PAGE), 1: 2500 (U-ExM), 1 : 2000-1 : 5 000 (WB) |
| **Expected \| apparent MW** | 53.9 kDa (*Arabidopsis thaliana*), 51.7 kDa (*Synechocystis* PCC 6803), 53.7 kDa (*Spinacia oleracea*) |
| **Confirmed reactivity** | *Arabidopsis thaliana, Bacillus cereus, Bryopsis corticulans, Camelina sinensis, Chlamydomonas reinhardtii, Chlorella vulgaris, Chromochloris zofingiensis, Cyanidioschyzon merolae, Dionaea muscipula, Echinochloa crus/galli, Escherichia coli, Gossypium hirsutum, Helicobacter pylori, Hordeum vulgare, Gladieria sulphuraria, Glycine max, Lycopersicum esulentum, Moniliophthora perniciosa*, *Nannochloropsis salina*, *Neochloris oleoabundans* (chlorophyta), *Nicotiana bentamiana, Nicotiana tabacum*, *Oryza sp.* (roots, leafs, pollen), Ostreococcus tauri, *Pheodactylum tricornutum CCAP 1055/1, Pisum sativum*, *Plasmodium berghei*, *Populus sp., Robinia pseudoacacia, Scaphoideus titanus, Selaginella martensii, Setaria viridis, Solanum lycopersicum, Spinacia oleracea, Tetrabaena socialis, Toxoplasma gondii, Zea mays*<br><br>Animal tissues from: cow, chicken, pig, rat, salmon, seal, *Locusta migratoria* |
| **Predicted reactivity** | *Acinetobacter baumannii, Algae, Bacillus subtilis, Brassica napus, Cannabis sativa, Clostridioides difficile, Cyanobacteria, E.coli K-12, Eragrostis tef, Galdieria sulphuraria, Heliomicrobium modesticaldum Ice1, Manihot esculenta, Nicotiana plumbaginifolia, Saccharomyces cerevisiae, Salmonella typhimurium, Trichodesmium erythraeum, Triticum aestivum, Vitis vinifera, Zosteria marina, Yrsinia sp.*<br><br>Species of your interest not listed? Contact us |
| **Not reactive in** | Archeal V-type ATP synthase |
| **Additional information** | Blue Native gel electrophoresis (BN-PAGE) has been performed on samples solubilized with digitonin (4:1) and loaded at 100 µg/well. Gel thickness was 2 mm with 4.5-16 % gradient.<br><br>Antibody is recognizing mitochondrial form of AtpB Subota el. al (2011).<br><br>This antibody can be used as a loading control for bacteria, *Bacillus cereus*. |
| **Selected references** | Shikha et al. (2025). Numerous rRNA molecules form the apicomplexan mitoribosome via repurposed protein and RNA elements. Nat Commun. 2025 Jan 18;16(1):817. doi: 10.1038/s41467-025-56057-9.<br>Maclean et al. (2024). The Toxoplasma gondii mitochondrial transporter ABCB7L is essential for the biogenesis of cytosolic and nuclear iron-sulfur cluster proteins and cytosolic translation. mBio. 2024 Oct 16;15(10):e0087224. doi: 10.1128/mbio.00872-24.<br>Kubota et al. (2024). The blue–green light-dependent state transition in the marine phytoplankton Ostreococcus tauri. |

New Phytol. 2024 Sep 23. doi: 10.1111/nph.20137
Ermakova et al. (2024). Chloroplast NADH dehydrogenase-like complex-mediated cyclic electron flow is the main electron transport route in C4 bundle sheath cells. New Phytol. 2024 Jul 22.doi: 10.1111/nph.19982.
Hoa et al. (2024). Proteomic analysis on symbiotic differentiation of mitochondria in soybean nodules. Comparative Study Plant Cell Physiol. 2004 Mar;45(3):300-8. doi: 10.1093/pcp/pch035.
Zhao et al. (2024). Psb28 protein is indispensable for stable accumulation of PSII core complexes in Arabidopsis.Plant J. 2024 May 26. doi: 10.1111/tpj.16844.
Ciesielska et al. (2024). S2P2-the chloroplast-located intramembrane protease and its impact on the stoichiometry and functioning of the photosynthetic apparatus of A. thaliana. Front Plant Sci. 2024 Mar 15:15:1372318. doi: 10.3389/fpls.2024.1372318.
Usey and Huet et al. (2023). ATP synthase-associated coiled-coil-helix-coiled-coil-helix (CHCH) domain-containing proteins are critical for mitochondrial function in Toxoplasma gondii. mBio. 2023 Oct 31;14(5):e0176923. doi: 10.1128/mbio.01769-23.
Sulli et al. (2023). Generation and physiological characterization of genome edited Nicotiana benthamiana plants containing zeaxanthin as the only leaf xanthophyll. Planta . 2023 Oct 5;258(5):93. doi: 10.1007/s00425-023-04248-3.
Jiang et al. (2023). Toxic effects of lanthanum (III) on photosynthetic performance of rice seedlings: Combined chlorophyll fluorescence, chloroplast structure and thylakoid membrane protein assessment. Ecotoxicol Environ Saf. 2023 Nov 15:267:115627.doi: 10.1016/j.ecoenv.2023.115627.
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.
Silva et al.(2023). Functional and biochemical characterisation of the Toxoplasma gondii succinate dehydrogenase complex.PLoS Pathog. 2023 Dec 11;19(12):e1011867.doi: 10.1371/journal.ppat.1011867.
Ye et al. (2023). The light-harvesting chlorophyll a/b-binding proteins of photosystem II family members are responsible for temperature sensitivity and leaf color phenotype in albino tea plant. J Adv Res . 2023 Dec 25:S2090-1232(23)00404-6.doi: 10.1016/j.jare.2023.12.017.




**2 µg** of total protein extracted with PEB (**AS08 300**) from leaf tissue of (**1**) *Arabidopsis thaliana*, (**2**) *Spinacia oleracea*, (**3**) *Lycopersicon esculentum*, (**4**) *Glycine max*, (**5**) *Populus* sp., (**6**) *Zea mays* and (**7**) *Hordeum vulgare* were separated on **4-12%** NuPage (Invitrogen) **LDS-PAGE** and blotted 1h to **nitrocellulose**. In parallel a dilution row (**a**-**g**: 10 - 5 - 2.5 - 1.25 - 0.63 - 0.32 - 0.16 µg protein/lane) from sample **1** (*Arabidopsis*) was processed. Filters were blocked 1h with 2% low-fat **milk powder** in TBS-T (0.1% TWEEN 20) and probed with **anti-AtpB** (AS08 085, **1:5000**, 1h) and secondary anti-rabbit (**1:10000**, 1 h) antibody (HRP conjugated, recommended secondary antibody AS09 602) in TBS-T containing 2% low fat milk powder. Antibody incubations were followed by washings in TBS-T (15, +5, +5, +5 min). All steps were performed at RT with agitation. Signal was detected with chemiluminescent substrate, using a Fuji LAS-3000 CCD (300s, standard sensitivity).




**2 µg of total protein** from (**1**) cow muscle, **(2)** chicken muscle, **(3)** pig muscle, **(4)** rat liver, **(5)** salmon muscle, **(6)** seal muscle, **(8)** *Arabidopsis thaliana*, **(9)** *Zea mays* extracted with **P**rotein **E**xtration **B**uffer, PEB (**AS08 300**) and separated on **4-12%** NuPage (Invitrogen) **LDS-PAGE** and

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blotted 1h to **PVDF**. Blots were blocked immediately following transfer in 2% blocking reagent 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 (Agrisera anti-rabbit IgG horse radish peroxidase conjugated, AS09 602) diluted to 1:50 000 in 2% blocking solution for 1h at room temperature with agitation. The blots were washed as above and developed for 5 min with chemiluminescent detection reagent according to the manufacturers instructions. Images of the blots were obtained using a CCD imager (FluorSMax, Bio-Rad) and Quantity One software (Bio-Rad). Exposure time was 30 seconds.

M - molecular weight marker