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# Product no AS05 085 AtpB | Beta subunit of ATP synthase (chloroplastic + mitochondrial) (rabbit antibodies) Product information

Immunogen	<u>KLH</u> -conjugated synthetic peptide derived from available plant, algal (chloroplastic and mitochondrial) and bacterial sequences of beta subunits of F-type ATP synthases, including <i>Arabidopsis thaliana</i> chloroplastic ATP synthase subunit beta UniProt: <u>P19366</u> , TAIR: <u>AtCg00480</u> and <i>Arabidopsis thaliana</i> mitochondrial ATP synthase subunit beta-1, UniProt: <u>P83483</u> , TAIR: <u>AtSg08670</u> as well as <i>Chlamydomonas reinhardtii</i> , UniProt: <u>P06541</u> and <u>A8IQU3</u>
Host	Rabbit
Clonality	Polyclonal
Purity	Serum
Format	Lyophilized
Quantity	50 μl
Reconstitution	For reconstitution add 50 $\mu$ l 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.
	Anti-AtpB antibody was used as a loading control in Chlamydomonas reinhardtii and Synechocystis sp. PCC6803.

This product can be sold containing proclin if requested

## **Application information**

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, 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), Pheodactylum tricornutum CCAP 1055/1, Pisum sativum, Plasmodium berghei, Populus sp., Robinia pseudoacacia, Scaphoideus titanus, Selaginella martensii, Solanum lycopersicum, Spinacia oleracea, Tetrabaena socialis, Toxoplasma gondii, Zea mays
	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, Galdieria sulphuraria, Heliomicrobium modesticaldum lce1, Manihot esculenta, Nicotiana plumbaginifolia, Saccharomyces cerevisiae, Salmonella typhimurium, Trichodesmium erythraeum, Triticum aestivum, Vitis vinifera, Zosteria marina, Yrsinia sp.
	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.
	Antibody is recognizing mitochondrial form of AtpB Subota el. al (2011).
	This antibody can be used as a loading control for bacteria, Bacillus cereus.
Selected references	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.



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### **Application example**

1234567 kDa abcdefg



**2** μg of total protein extracted with PEB (<u>AS08 300</u>) 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 <u>AS09 602</u>) 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 Protein Extration Buffer, PEB (<u>AS08 300</u>) and separated on **4-12%** NuPage (Invitrogen) LDS-PAGE and 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



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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, <u>AS09 602</u>) 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