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Product no AS05 085-10

AtpB | Beta subunit of ATP synthase (chloroplastic + mitochondrial) (rabbit) (10 µl)

Product information

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 AtCg00480 and *Arabidopsis thaliana* mitochondrial ATP synthase subunit beta-1 At5g08670 as well as *Chlamydomonas reinhardtii* P06541 and A8IQU3
Host	Rabbit
Clonality	Polyclonal
Purity	Serum
Format	Lyophilized
Quantity	10 µl
Reconstitution	For reconstitution add 10 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. 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.

Application information

Recommended dilution	1 : 100 (IF), 1 : 5000 (BN-PAGE), 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	*Agostis stolonifera* cv. 'Penncross', *Arabidopsis thaliana, Bacillus cereus, Chlamydomonas reinhardtii, Hordeum vulgare, Glycine max, Lycopersicum esulentum, Oryza sp.* (roots, leafs, pollen), *Nicotiana bentamiana, Nicotiana tabacum*, *Populus sp., Spinacia oleracea, Zea mays*. Animal tissues from: cow, chicken, pig, rat, salmon, seal, *Locusta migratoria*
Predicted reactivity	*Acinetobacter baumannii,* Algae*, Cannabis sativa, Clostridium sp.,* Diatoms, *Cyanobacteria, E.coli* K-12, *Vitis vinifera, Yersinia 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	Cecchin et al (2021) LPA2 protein is involved in photosystem II assembly in Chlamydomonas reinhardtii. Plant J. 2021 Jul 4. doi: 10.1111/tpj.15405. Epub ahead of print. PMID: 34218480. Aihara et al. (2019). Algal photoprotection is regulated by the E3 ligase CUL4-DDB1DET1. Nat Plants. 2019 Jan;5(1):34-40. doi: 10.1038/s41477-018-0332-5. Jespersen et al. (2017). Metabolic Effects of Acibenzolar-S-Methyl for Improving Heat or Drought Stress in Creeping Bentgrass. Front Plant Sci. 2017 Jul 11;8:1224. doi: 10.3389/fpls.2017.01224. eCollection 2017. (western blot, Agostis stolonifera cv. 'Penncross') Rurek et al. (2015). Biogenesis of mitochondria in cauliflower (Brassica oleracea var. botrytis) curds subjected to temperature stress and recovery involves regulation of the complexome, respiratory chain activity, organellar translation and ultrastructure. Biochim Biophys Acta. 2015 Jan 21. pii: S0005-2728(15)00016-X. doi: 10.1016/j.bbabio.2015.01.005. Eom et al. (2014). Bacillus subtilis HJ18-4 from Traditional Fermented Soybean Food Inhibits Bacillus cereus Growth and Toxin-Related Genes. J Food Sci. 2014 Nov;79(11):M2279-87. doi: 10.1111/1750-3841.12569. Epub 2014 Oct 30.

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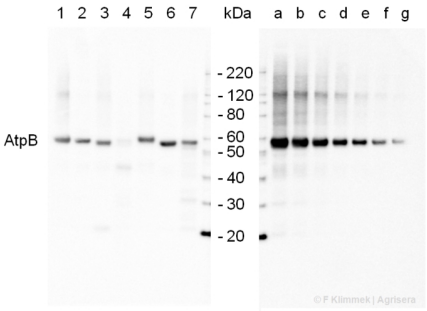
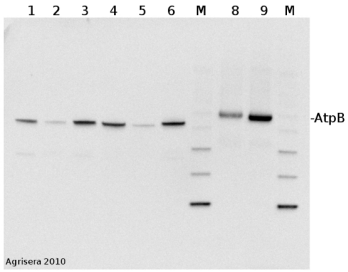
Application example



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 (**1:10 000**, 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 chemiluminescence detection reagent, 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 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 chemiluminescene 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