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Product no AS03 030

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

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 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	Chicken
Clonality	Polyclonal
Purity	Purified, total IgY (chicken egg yolk immunoglobulin) in PBS pH 8. Contains 0.02 % sodium azide.
Format	Liquid
Quantity	100 µl
Storage	Store at 2-8°C.; make aliquots to avoid working with a stock. 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

Application information

Recommended dilution	1 : 500 for localization of native enzyme by immunogold (IL), 1 : 5 000-1 : 8 000 (WB)
Expected | apparent MW	53.9 kDa (*Arabidopsis thaliana*), 51.7 kDa (*Synechocystis* PCC 6803), 53.7 kDa (*Spinacia oleracea*)
Confirmed reactivity	*Arabidopsis thaliana, Hordeum vulgare, Phaeodactylum tricornutum, Spartina alterniflora, Spinacia oleracea, Synechocystis* PCC 6803, *Synechococcus* PCC 7942, beef muscle, Rat liver
Predicted reactivity	*Acinetobacter baumannii*, *Bacillus subtilis*, B*rassica napus, Cannabis sativa, Clostridioides difficile, Cyanobacteria, E.coli K-12, Galdieria sulphuraria, Heliomicrobium modesticaldum Ice1, 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	Results of immunogold studies using anti-AtpB antibody are published in Andersson et al. (2009).
Selected references	Neusius et al. (2022) Lysine acetylation regulates moonlighting activity of the E2 subunit of the chloroplast pyruvate dehydrogenase complex in Chlamydomonas. Plant J. 2022 Sep;111(6):1780-1800. doi: 10.1111/tpj.15924. Epub 2022 Aug 8. PMID: 35899410. Levitan et al. (2019). Structural and functional analyses of photosystem II in the marine diatom Phaeodactylum tricornutum. Proc Natl Acad Sci U S A. 2019 Aug 27;116(35):17316-17322. doi: 10.1073/pnas.1906726116. Nelson et al. (2019). Protein lysine methylation contributes to modulating the response of sensitive and tolerant Arabidopsis species to cadmium stress. doi: 10.1111/pce.13692. Gellert et al. (2018). A single point mutation on the cucumber mosaic virus surface induces an unexpected and strong interaction with the F1 complex of the ATP synthase in Nicotiana clevelandii plants. Virus Res. 2018 Jun 2;251:47-55. doi: 10.1016/j.virusres.2018.05.005. (immunogold) Quesada et al. (2011). Arabidopsis RUGOSA2 encodes an mTERF family member required for mitochondrion, chloroplast and leaf development. Plant J. Nov;68(4):738-53. doi: 10.1111/j.1365-313X.2011.04726.x. Epub 2011 Sep 13.

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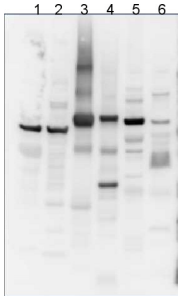

10 µg of total protein from samples such as beef muscle **(1)**, rat liver **(2)**, *Arabidopsis thaliana* leaf **(3)**, *Hordeum vulgare* leaf **(4)**, *Synechocystis* PCC 6803 total cell **(5)**, *Synechococcus* PCC 7942 total cell **(6)** were extracted with Protein Extraction Buffer PEB (AS08 300). Samples were diluted with 1X sample buffer (NuPAGE LDS sample buffer (Invitrogen) supplemented with 50 mM DTT and heat at 70C for 5 min and keep on ice before loading. Protein samples were separated on Bolt 4-12% Tris-Bis gel (Invitrogen) LDS-PAGE and blotted for 1h to 1.5h on PVDF using Bolt Mini Blot Module. Blot was blocked immediately following transfer in 2% blocking reagent (GE RPN 2125; Healthcare) dissolved 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. Blot was incubated in the primary antibody at a dilution of 1: 5 000 (in blocking reagent) for 1h at room temperature with agitation. The antibody solution was decanted and the blot was rinsed briefly twice, and then washed 1x15 min and 3x5 min with TBS-T at room temperature with agitation. Blot was incubated in secondary antibody (anti-chicken IgY horse radish peroxidase conjugated) diluted to 1:20 000 in blocking reagent for 1h at room temperature with agitation. The blot was washed as above. Signals in the blot were detected using Lumigen ECL Ultra Reagent (Lumigen TMA-6, Lumigen), and visualized using the Molecular Imager VersaDoc MP 4000 System (Bio-Rad) and Quantity One software (Bio-Rad). Exposure time was 30 seconds.