Datasheet for ABIN5684017

anti-ATP1B1 antibody (Subunit beta)

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Overview

Quantity:	50 µL
Target:	ATP1B1
Binding Specificity:	Subunit beta
Reactivity:	Rat, Arabidopsis thaliana, Pig, Spinach, Zea mays subsp. parviglumis (Balsas teosinte), Soybean, Salmon, Oryza sativa, Nicotiana tabacum, Nicotiana benthamiana, Chlamydomonas reinhardtii, Chicken, Barley, Bacillus cereus
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This ATP1B1 antibody is un-conjugated
Application:	Western Blotting (WB), Immunofluorescence (IF), Blue-native PAGE (BN PAGE)

Product Details

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
Specificity:	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 ina beta sheet, which is partly exposed near the surface of the AtpB protein.
Cross-Reactivity (Details):	No cross-reactivity with: archeal V-type ATP synthase

Product Details

Characteristics:	Expected / apparent Molecular Weight of the Antigene: 53.9kDa (Arabidopsis thaliana), 51.7 kDa (Synechocystis PCC 6803), 53.7 kDa (Spinacia oleracea)
Purification:	serum

Target Details

Target:	ATP1B1
Alternative Name:	AtpB (ATP1B1 Products)
Background:	AGI Code: At5g08670, ATCG00480 ATP synthase is the universal enzyme that synthesizes ATP from ADP and phosphate using the energy stored in a transmembrane ion gradient.
Molecular Weight:	53.9 kDa (Arabidopsis thaliana), 51.7 kDa (Synechocystis PCC 6803), 53.7 kDa (Spinacia oleracea)
UniProt:	P83483, A8IQU3, P19366, P06541
Pathways:	Thyroid Hormone Synthesis, Ribonucleoside Biosynthetic Process, SARS-CoV-2 Protein Interactome

Application Details

Application Notes:	Recommended Dilution: 1 : 2000 - 1 : 5 000 with standard ECL (WB), 1 : 5000 (BN-PAGE).
Comment:	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.
Restrictions:	For Research Use only

Handling

Format:	Lyophilized
Reconstitution:	For reconstitution add 10 µL of sterile water
Handling Advice:	Please, remember to spin tubes briefly prior to opening them to avoid any losses that might occur from lyophilized material adhering to the cap or sides of the tubes. Once reconstituted make aliquots to avoid repreated freeze-thaw cycles.
Storage:	-20 °C

Publications

Product cited in:

Rurek, Woyda-Ploszczyca, Jarmuszkiewicz et al.: "Biogenesis of mitochondria in cauliflower (Brassica oleracea var. botrytis) curds subjected to temperature stress and recovery involves regulation of the complexome, respiratory chain activity, ..." in: **Biochimica et biophysica acta**, Vol. 1847, Issue 4-5, pp. 399-417, (2015) (PubMed).

Schmied, Hedtke, Grimm: "Overexpression of HEMA1 encoding glutamyl-tRNA reductase." in: **Journal of plant physiology**, (2011) (PubMed).

Berto, DAdamo, Bergantino, Vallese, Giacometti, Costantini: "The cyanobacterium Synechocystis sp. PCC 6803 is able to express an active [FeFe]-hydrogenase without additional maturation proteins." in: **Biochemical and biophysical research communications**, (2011) (PubMed).

Ahsan, Nakamura, Komatsu: "Differential responses of microsomal proteins and metabolites in two contrasting cadmium (Cd)-accumulating soybean cultivars under Cd stress." in: **Amino acids**, (2010) (PubMed).

Images

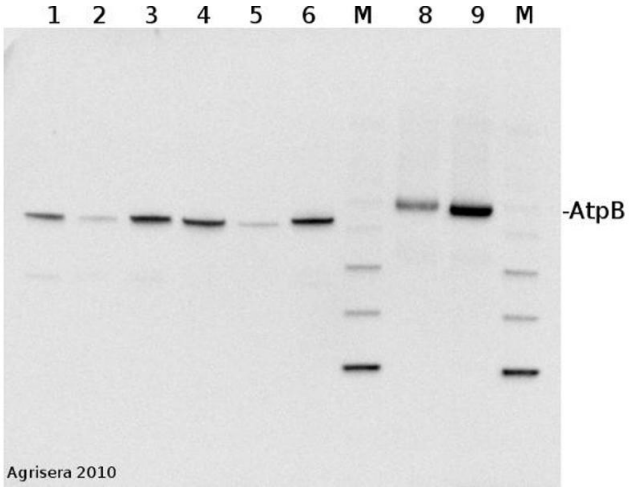
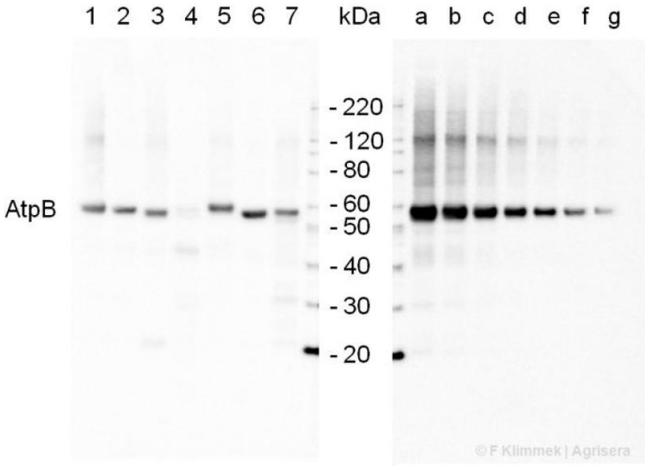


Image 1. 2 µg of total protein from (1) cow, (2) chicken, (3) pig, (4) rat, (5) salmon, (6) seal, (8) Arabidopsis thaliana, (9) Zea mays extracted with Protein Extration Buffer, PEB and separated on 4-12% NuPage (Invitrogen) LDS-PAGE and blotted 1h to PVDF. Blots were blocked immediately following transfer in 2% ECL Advance blocking reagent (GE Healthcare) 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% ECL Advance blocking solution for 1h at room temperature with agitation. The blots were washed as above and developed for 5 min with ECL Advance 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.



Western Blotting

Image 2. 2 µg of total protein extracted with PEB 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 (1:5000, 1h) and secondary anti-rabbit (1:10000, 1 h) antibody (HRP conjugated, Abcam) 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 standard ECL (Invitrogen) using a Fuji LAS-3000 CCD (300s, standard sensitivity).

