

Product no **AS07 205**

FtsH4 | ATP-dependent zinc metalloprotease FtsH4 (mitochondrial)

Product information

Background	One of the several classes of mitochondrial proteases is membrane bound, ATPdependent FtsH protease . Their function is very important for the control of protein quality and quantity by degradation of unassembled subunits. Synonyme: cell division protease ftsH homolog 4, mitochondrial
Immunogen	<u>KLH</u> -conjugated peptide derived from sequence of <i>Arabidopsis thaliana</i> FtsH4 UniProt: <u>O80983</u> , TAIR: <u>At2g26140</u>
Host	Rabbit
Clonality	Polyclonal
Purity	Affinity purified serum in PBS, pH 7.4
Format	Lyophilized
Quantity	200 µg
Reconstitution	For reconstitution add 100 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 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.
Tested applications	Western blot (WB)
Related products	AS11 1789S FtsH2 positive control/quantitation standard AS11 1789 Anti-FtsH1-11 ATP-dependent zinc metalloprotease FtsH1-11, rabbit antibodies AS16 3930 Anti-FtsH1 + FtsH5 ATP-dependent zinc metalloprotease FtsH1 + FtsH5 (chloroplastic), rabbit antibodies AS16 3929 Anti-FtsH2 + FtsH8 ATP-dependent zinc metalloprotease FtsH2 + FtsH8 (chloroplastic), rabbit antibodies AS07 204 Anti-FtsH3 + FtsH10 ATP-dependent zinc metalloprotease FtsH3 + FtsH10 (mitochondrial), rabbit antibodies AS05 094A Anti-FtsH6 ATP-dependent zinc metalloprotease FtsH6 (chloroplastic), rabbit antibodies AS06 130 Anti-FtsH9 ATP-dependent zinc metalloprotease FtsH9 (chloroplastic), rabbit antibodies AS07 251 Anti-FtsH10 ATP-dependent zinc metalloprotease FtsH10 (mitochondrial), rabbit antibodies Antibodies to other proteins involved in photosynthesis

Application information

Recommended dilution	1 : 500 (WB)
Expected apparent MW	77 72 kDa
Confirmed reactivity	<i>Arabidopsis thaliana</i> , <i>Brassica oleracea</i> var. botrytis
Predicted reactivity	<i>Brassica</i> sp. Species of your interest not listed? Contact us
Not reactive in	<i>Solanum lycopersicum</i>
Selected references	Opalińska et al. (2017). Identification of Physiological Substrates and Binding Partners of the Plant Mitochondrial Protease FTSH4 by the Trapping Approach. Int J Mol Sci. 2017 Nov 18;18(11). pii: E2455. doi: 10.3390/ijms18112455. Dolzbłasz et al. (2016). The mitochondrial protease AtFTSH4 safeguards Arabidopsis shoot apical meristem function. Sci Rep. 2016 Jun 20;6:28315. doi: 10.1038/srep28315. Rurek et al. (2015). Biogenesis of mitochondria in cauliflower (<i>Brassica oleracea</i> var. botrytis) curds subjected to temperature stress and recovery involves regulation of the complexome, respiratory chain activity, organellar

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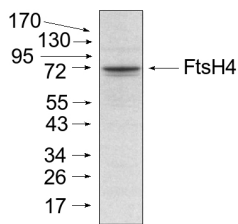
translation and ultrastructure. *Biochim Biophys Acta*. 2015 Jan 21. pii: S0005-2728(15)00016-X. doi: 10.1016/j.bbabi.2015.01.005.

Zhang et al. (2014). Perturbation of auxin homeostasis caused by mitochondrial FtSH4 gene-mediated peroxidase accumulation regulates *Arabidopsis* architecture. *Mol Plant*. 2014 Jan 30.

Kwasniak et al. (2013). Silencing of the Nuclear RPS10 Gene Encoding Mitochondrial Ribosomal Protein Alters Translation in *Arabidopsis* Mitochondria. *Plant Cell*, May 30.

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Application example



Total protein from *Arabidopsis thaliana* mitochondria (20 µg) were separated on 10% acrilamide gel and electrophoresis prepared according to Schägger and von Jagow (*Anl. Biochem.*, 1987, 166:368-379). After running the gel, proteins were transferred to nitrocellulose membrane using wet transfer (0.22% CAPS, pH 11). Transfer was checked by Ponceau S staining. Blot was destained by several quick washings in distilled water and 1 washing in 1X TBS (10 mM Tris pH 7.5, 150 mM NaCl) (10-15 min.). Blot was blocked by 1.5 hour in 5% milk in TBST (1X TBS, 0,1 20) After blocking blot was washed quickly twice in TBST and incubated 2 hours with primary antibody (dilution 1: 1000 TBST (dilution 1:1000). Washing: two quick washings in TBST and 3 x 10 min. washings in TBST. Then blot was incubated 45-60 min. with a secondary anti-rabbit antibodies conjugated to peroxidase (dilution 1:10000) in TBST. Washing: as above. After washing blot was incubated 1-2 min. in chemiluminescent solution and exposed to Kodak autoradiography film. Exposure time was 15-60 seconds.

Mitochondria were isolated as described by Urantowka et al. (*Plant Mol Biol*, 2005, 59:239-52). Mitochondrial pellets were suspended in 1X Laemmli buffer (5% beta-mercaptoethanol, 3.7% glycerol, 1.1% SDS, 23 mM Tris-HCl pH 6.8, 0.01% bromophenol blue), heated (95°C, 5 min.) and centrifuged (13000rpm, 1 min.).

Courtesy Dr. J. Piechota, University of Wrocław, Poland