product AS16 3930
FtsH1 + FtsH5 | ATP-dependent zinc metalloprotease FtsH1 + FtsH5 (chloroplastic)

product information

Background
FtsH belong to a family of ATP dependent peptidases. Localized in a chloroplast are following isoforms: FTS1 (synonymes AAA, FTSH, FTSH Protease 1), Ftsh2 (VAR2, VARIEGATED 2), FtsH5 (VAR1, VARIEGATED 1), FtsH6 (FTSH PROTEASE 6), FtsH7, FtsH8, FtsH9. Localized in mitochondria are following isoforms: FtsH3, FtsH4, FtsH10, FtsH11.

FtsH5 (VAR1) is a component of the ATP-dependent zinc metallopeptidase. It is involved in the thylakoids biogenesis and in the repair of damaged D1 subunit of photosystem II, a process that protects against cell death under high light conditions. It forms a complex with VAR1. FtsH5 (VAR1) and FtsH1 are interchangeable in thylakoid membranes.

Immunogen
Recombinant Arabidopsis thaliana FtsH5, UniProt: O80860; TAIR: At5g42270

Host
Rabbit

Clonality
Polyclonal

Purity
Serum

Format
Lyophilized

Quantity
50 µl

Reconstitution
For reconstitution add 50 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
AS16 3929 | anti-FtsH2 + FtsH8 | ATP-dependent zinc metalloprotease FtsH2 + FtsH8 (chloroplastic)
AS07 204 | anti-FtsH3 + FtsH10 | ATP-dependent zinc metalloprotease FtsH3 + FtsH10 (mitochondrial)
AS07 205 | anti-FtsH4 | ATP-dependent zinc metalloprotease FtsH4 (mitochondrial)
AS05 094A | anti-FtsH6 | ATP-dependent zinc metalloprotease FtsH6 (chloroplastic)
AS06 130 | anti-FtsH9 | ATP-dependent zinc metalloprotease FtsH9 (chloroplastic)
AS07 251 | anti-FtsH10 | ATP-dependent zinc metalloprotease FtsH10 (mitochondrial)

Antibodies to other proteins involved in photosynthesis

Secondary antibodies

Application information

Recommended dilution
1 : 5000 (WB)

Expected | apparent MW
67.1 kD (Arabidopsis thaliana)

Confirmed reactivity
Arabidopsis thaliana, Nicotiana tabacum, Spinacia oleracea

Not reactive in
No confirmed exceptions from predicted reactivity are currently known.

Additional information
Both FtsH5 (VAR1) and FtsH1 ahare high degree of homology therefore this antibody recognizes both proteins.
Total proteins were isolated from Arabidopsis (Arabidopsis thaliana) wild type (Col) and mutant lacking FtsH2 (yellow variegated2 [var2]). Samples were immediately frozen in liquid nitrogen and pulverized with a microtube homogenizer. Proteins were extracted by adding appropriate extraction buffer. After measurement of chlorophyll concentration, equally loaded supernatants (based on chlorophyll [0.5 µg chlorophyll/lane]) were subjected to SDS-PAGE analysis. Proteins were separated on 12% SDS-PAGE gel and blotted 1h to PVDF membrane. Blots were blocked in 1% BSA in PBST buffer for 1 h at room temperature. Then, blots were incubated in the primary antibody (anti-VAR1) at a dilution of 1:5000 for 1 h. After washing 2 times for 10 min in PBST buffer, blots were incubated in the secondary antibody (anti Rabbit IgG) at a dilution of 1:5000 for 1 h. Blots were washed 2 times for 10 min in PBST buffer. Luminata crescendo (Millipore) was used for signal detection. Images of the blots were obtained using ChemiDoc™ XRS (Bio-rad). Exposure time was 2 seconds.

Absence of FtsH2 in var2 mutant results in decreased amount of FtsH1 which together form a hetero-hexamer complex.

Courtesy of Dr. Yusuke Kato, Plant Light Acclimation Research Group, Okayama University, Japan