

Anti-PYK10 antibody, internal, rabbit polyclonal

81-117 100 µg

Storage: Ship at 4°C or -20°C and store at -20°C. Do not freeze below -20°C.

Immunogen: Synthetic peptide, C-SNHLEKPDPSKPRWMQDS,
corresponding to internal region of PYK10 protein (351- 368 amino acids) of

Form: 2 mg/ml in PBS- with 50% glycerol. Filter-sterilized. No preservative or carrier protein

Purity: IgG fraction purified with protein A from the rabbit antiserum to PYK10 internal region.

Reactivity: Arabidopsis thaliana. Not tested in other species.

Arabidopsis thaliana.

Applications:

1. Western blotting (1/5,000-1/20,000)
2. Immunoprecipitation (1/500)
2. Immunofluorescent staining (1/100-1/500)
3. Immunohistochemistry (1/500)

Background: PYK10 is the main component of ER bodies. It has hydrolase activity, hydrolyzing O-glycosyl compounds. It may produce defense compounds when plants are damaged by insects or wounding. Length; 524 amino acids. Mass; 59,721. The signal sequence, N-terminal 24 amino acids is removed in the mature protein. It has ER retention signal, KDEL, at C-terminus.

Subcellular localization: ER bodies.

Data Link: UniProtKB [A0A178VCN3](#) (A0A178VCN3_ARATH)

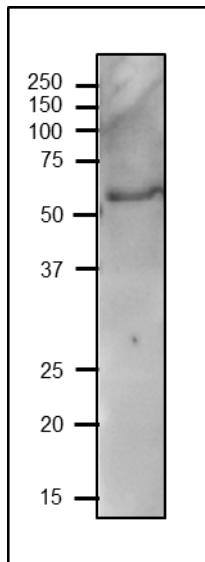


Fig.1 Western blot of PYK10 in extract of seedlings of Arabidopsis

Crude extract of 7-day-old seedlings of *Arabidopsis thaliana* was run on SDS-PAGE (12.5% gel) and blotted to PVDF membrane by semi-dry system. Blocking was done with 3% skim milk. The anti-PYK10 (intermial) antibody was used at 0.4 μ g/ml. Secondary antibody (goat anti-rabbit IgG antibody HRP-conjugated, ab97051) was used at 1/10,000 dilution.

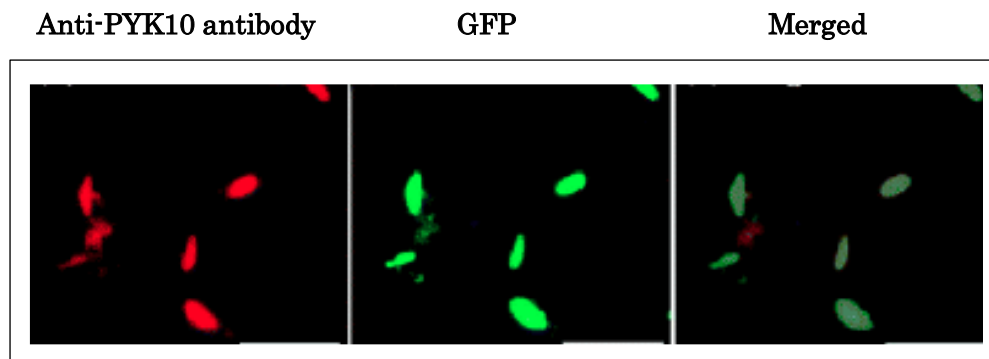


Fig.2 Localization of PYK10 in ER bodies shown by immunofluorescent staining.

Sample; The P1 pellet obtained from 8-day-old seedlings (carrying GFP gene with ER-retention signal)

The PYK10 antibody was used at 1/500 dilution and as the second antibody, Alex Fluor 546 conjugated goat anti-rabbit IgG (Molecular Probes) was used at 1/1,000 dilution.

Colocalization of PYK10 with GFP signal indicates that PYK10 is localized in ER bodies.

Reference. This antibody was described in Ref.1 and used in the following publications.

1. Matsushima R et al. A novel ER-derived compartment, the ER body, selectively accumulates a beta-glucosidase with an ER-retention signal in Arabidopsis [Plant J.](#) 2003 Feb;33(3):493-502. PMID: [12581307](#). WB, IF, IHC (arabidopsis)

2. Nagano AJ et al. Activation of an ER-body-localized β -Glucosidase via a Cytosolic Binding Partner in Damaged Tissues of *Arabidopsis thaliana*. [Plant Cell Physiol](#). 2005 Jul;46(7):1140-8. PMID: [15919674](#) **WB, IP (arabidopsis)**
3. Yamada K et al. NAI2 Is an Endoplasmic Reticulum Body Component That Enables ER Body Formation in *Arabidopsis thaliana*. [Plant Cell](#). 2008 Sep; 20(9): 2529–2540. PMID: [18780803](#). **WB (arabidopsis)**
4. Nagano AJ et al. Quantitative analysis of ER body morphology in an *Arabidopsis* mutant. [Plant Cell Physiol](#). 2009 Dec;50(12):2015-22. PMID: [19906837](#) **WB (arabidopsis)**
5. Yamada K et al. Identification of Two Novel Endoplasmic Reticulum Body-Specific Integral Membrane Proteins [Plant Physiol](#). 2013 Jan;161(1):108-20. PMID: [23166355](#) **WB (arabidopsis)**
6. Gotte M et al. Endoplasmic Reticulum Body–Related Gene Expression in Different Root Zones of *Arabidopsis* Isolated by Laser-Assisted Microdissection [Plant Genome](#). 2016 Jul;9(2). PMID: [27898830](#). **IHC (arabidopsis)**

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- 81-116 Anti-PYK10 antibody, C-terminal, rabbit polyclonal