

## Anti-TGG1/ Myrosinase 1 antibody, rabbit polyclonal

Cat. # 81-110      Size: 200 µg

### Background:

In Brassicaceae, the enzyme myrosinase (beta-thioglucoside glucohydrolase, TGG) degrades glucosinolates to produce toxins like thiocyanates, isothiocyanates, nitriles, epithionitriles or oxazolidine-2-thiones that deter herbivory. There are two TGG enzymes, TGG1 and TGG2, which have a redundant function.

**Subcellular location:** Vacuole

**Modification:** N-linked glycosylation at 9 asparagine residues. Elimination of 19-amino acid signal peptide from N-terminus.

### Specifications:

**Storage:** Shipped at 4°C and store at -20°C

**Form:** 2 mg/ml in PBS, 50% glycerol. Filter sterilized. No preservative or carrier added.

**Purity:** IgG, affinity-purified with Protein A

**Immunogen:** A synthetic peptide, AQNNQTIVPSDVHT, corresponding to TGG1 protein (353-366) of *A. thaliana*, conjugated with bovine serum albumin.

**Reactivity:** TGG1 protein of *Arabidopsis thaliana*. Not tested for other species.

**Validation:** Specific reactivity has been validated by western blot showing that the TGG2 specific band is absent in *tgg2-1* mutant leaf extract (Ref.1)

### Applications

1. Western blot (1/1,000- 1/3,000 dilution)
2. ELISA (assay dependent)
3. Immunohistochemistry (1/500-1/1,000)
4. Immunoelectron microscopic analysis (1/1,000-1/2,500)

Other applications have not been tested.

**Data Link:** Swiss-Prot : [P37702](#) ((BGL38\_ARATH))

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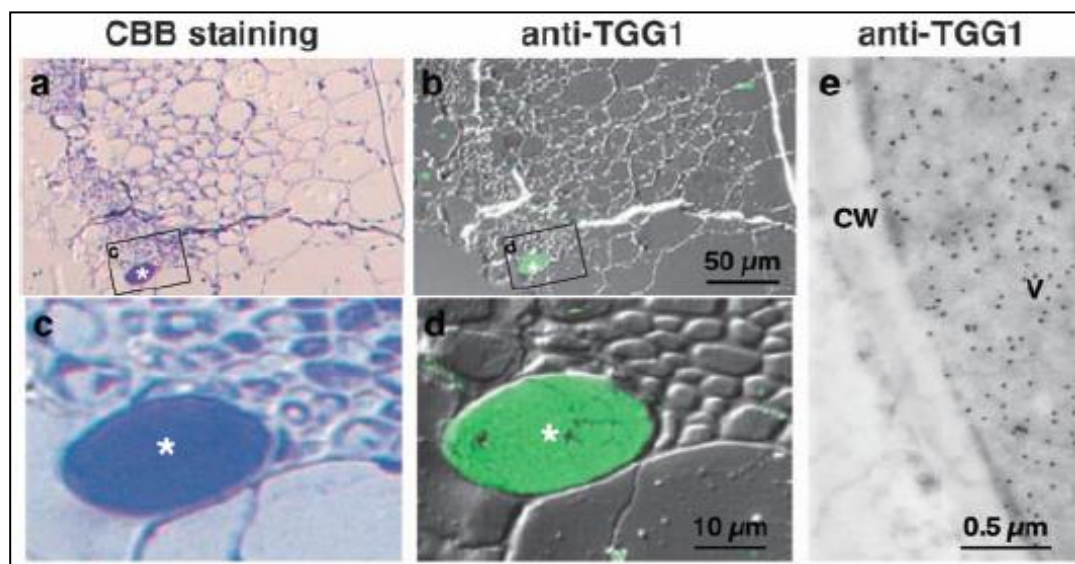
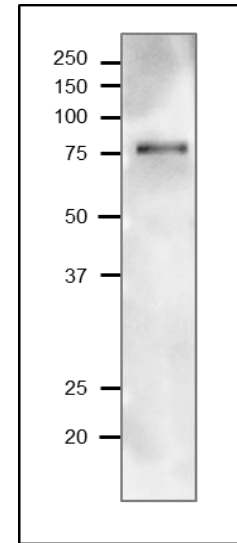
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**Fig. 1 Western Blot of TGG1 in Arabidopsis leaf extract.**

Anti-TGG1 antibody was used at 1/1,000 dilution. Secondary antibody (goat anti-rabbit IgG antibody HRP-conjugated, ab97051) was used at 1/10,000 dilution.

Sample: Arabidopsis leaf extract, 10 µg

Molecular mass of TGG1 is 61 kDa from the amino acid sequence. The protein undergoes modifications such as elimination of signal peptide and glycosylation at 9 positions, which changes molecular mass in mature form.



**Fig. 2 Localization of TGG1 in sections of Arabidopsis rosette leaves**

Sections of rosette leaves of 48-day—old plants were stained with CBB (**a**, **c**), and reacted with anti-TGG1 antibody at 1/1,000 dilution followed by reaction with Alexa Fluor 488 goat anti-rabbit IgG at 1/1,000 dilution (**b**, **d**). Images **c** and **d** are enlarged images of the boxed area in images **a** and **b**, respectively. Asterisks show myrosin cells.

For immunoelectron microscopy (**e**), ultrathin sections were mounted on Formvar-coated nickel grid. The sections were reacted with anti-TGG1 antibody at 1/1,000 dilution. After washing with PBS, they were incubated with anti-rabbit IgG conjugated to gold particle (AuroProbe EM). **CW** is cell wall and **V**, vacuole.

**References:** This product has been used in the following publication.

1. Ueda T. et al. AtVAM3 is required for normal specification of idioblasts, myrosin cells. [Plant Cell Physiol.](#) 2006 Jan;47(1):164-75. PMID:[16306062](#) WB, IHC, Immunoelectron microscopy (Arabidopsis)
2. Shirakawa M. et al. Arabidopsis Qa-SNARE SYP2 proteins localized to different subcellular regions function redundantly in vacuolar protein sorting and plant development. *The Plant Journal* (2010) 64, 924–935. PMID:[21143674](#) WB (Arabidopsis)
3. Farid M. et al. *Arabidopsis thaliana* alpha1,2-glucosyltransferase (ALG10) is required for efficient N-glycosylation and leaf growth. [Plant J.](#) 2011 Oct; 68(2): 314–325. PMID: [21707802](#) WB (Arabidopsis)
4. Hüttner HS, et al. Unraveling the function of Arabidopsis thaliana OS9 in the endoplasmic reticulum-associated degradation of glycoproteins. *Plant Mol Biol* (2012) 79:21–33. PMID: [22328055](#) WB (Arabidopsis)

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