

Anti-At 12S (12S Globulin) antibody, rabbit polyclonal

Cat. # 81-123

Size: 200 µg

Background:

Major 12S seed storage protein CRC (globulin) is synthesized on the endoplasmic reticulum as precursor and then transported to storage vacuoles, where it is processed at a conserved Asn-Gly peptide bond by an asparaginyl endopeptidase to produce two mature polypeptides referred to as alpha and beta subunits that are joined together by a disulfide bond. Phosphorylated in seeds on some Tyr residues in response to abscisic acid (ABA)

Subcellular location: Vacuole

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. thaliana* 12S globulin α -subunit purified on SDS-PAGE.

Reactivity: Reacts with *A thaliana* 12S globulin (precursor and α -subunit). Not tested in other species

Applications

1. Western blot (1/3,000- 1/10,000 dilution)
2. ELISA (assay dependent)
3. Immunohistochemistry (1/100)
4. Immunoelectron microscopic analysis (1/50)

Other applications have not been tested.

Data Link: UniProtKB:[O96318](https://www.uniprot.org/entry/O96318) (CRU3_ARATH)

Distributed by AS ONE International, Inc.

Tel: 408-638-7415

www.asone-int.com

info@asone-int.com

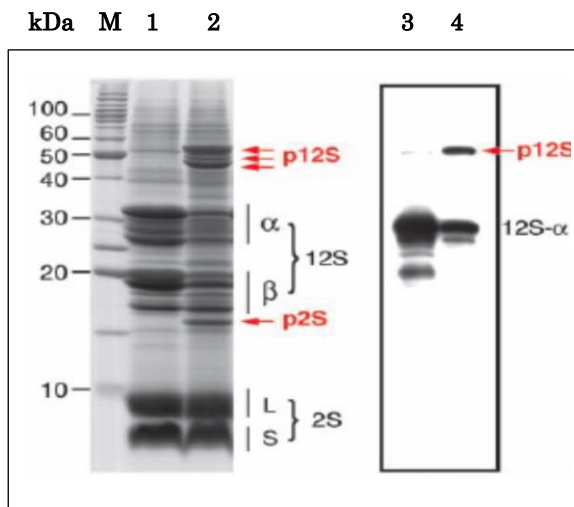


Fig. 1 Western Blot of the precursor 12S globulin and 12S- α subunit of the mature forms in extract of arabidopsis dry seeds.

M: Protein size markers

1. SDS-PAGE of wild-type seed.
2. SDS-PAGE of *atvst1-1* mutant (defective in storage protein transport) seed.
3. Western blot of wild-type seed
4. Western blot of *atvst1-1* mutant seed

The anti-12S globulin antibody was used at 1/5,000 dilution.

P12S is the precursor of 12S globulin.

12S- α is the α -subunit of 12S globulin.

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

1. Shimada T. et al. Vacuolar processing enzymes are essential for proper processing of seed storage proteins in *Arabidopsis thaliana*. [J Biol Chem](#). 2003 Aug 22;278(34):32292-9. PMID:[12799370](#). WB (Arabidopsis)
2. Shimada T. et al. Vacuolar sorting receptor for seed storage proteins in *Arabidopsis thaliana*. [Proc Natl Acad Sci U S A](#). 2003 Dec 23;100(26). PMID:[14657332](#) WB, Immuno-Electron Microscopy (Arabidopsis)
3. Shimada T. et al. AtVPS29, a putative component of a retromer complex, is required for the efficient sorting of seed storage proteins. [Plant Cell Physiol](#). 2006 Sep;47(9):1187-94. PMID:[16926167](#) WB, Immuno-Electron Microscopy (Arabidopsis)
4. Li L. et al. MAIGO2 is involved in exit of seed storage proteins from the endoplasmic reticulum in *Arabidopsis thaliana*. [Plant Cell](#). 2006 Dec;18(12):3535-47. PMID:[17194767](#). WB, Immuno-Electron Microscopy (Arabidopsis)
5. Tamura K. et al. *Arabidopsis* KAM2/GRV2 is required for proper endosome formation and functions in vacuolar sorting and determination of the embryo growth axis. [Plant Cell](#). 2007 Jan;19(1):320-32. PMID:[17259264](#) WB, Immuno-Electron Microscopy (Arabidopsis)
6. Fuji K. et al. *Arabidopsis* vacuolar sorting mutants (green fluorescent seed) can be identified efficiently by secretion of vacuole-targeted green fluorescent protein in their seeds. [Plant Cell](#). 2007 Feb;19(2):597-609. PMID:[17293568](#). WB (Arabidopsis)
7. Takahashi H. et al. MAG4/Atp115 is a golgi-localized tethering factor that mediates efficient anterograde transport in *Arabidopsis*. [Plant Cell Physiol](#). 2010

Distributed by AS ONE International, Inc.

- Oct;51(10):1777-87. PMID:[20837504](#) WB, Immuno-Electron Microscopy (Arabidopsis)
8. 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, Immuno-Electron Microscopy (Arabidopsis)
 9. Li L. et al. MAG2 and three MAG2-INTERACTING PROTEINs form an ER-localized complex to facilitate storage protein transport in Arabidopsis thaliana. *Plant J.* 2013 Dec;76(5):781-91. PMID:[24118572](#) WB, Immuno-Electron Microscopy (Arabidopsis)
 10. Shirakawa M. et al. CONTINUOUS VASCULAR RING (COV1) is a trans-Golgi network-localized membrane protein required for Golgi morphology and vacuolar protein sorting. *Plant Cell Physiol.* 2014 Apr;55(4):764-72. PMID:[24363287](#) WB, IHC (Arabidopsis)
 11. Teh OK. et al. BEACH-domain proteins act together in a cascade to mediate vacuolar protein trafficking and disease resistance in Arabidopsis. *Mol Plant.* 2015 Mar;8(3):389-98. PMID:[25618824](#) WB (Arabidopsis)