

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

81-123 200 µg

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

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

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

Applications:

1. Western blotting (1/3,000-1/10,000)
2. Immuno-electron microscopy (1/50)
3. Immunohistochemistry (1/100)
4. ELISA (Assay dependent)

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

Purity: IgG fraction purified by protein A/G affinity-chromatography from rabbit antiserum

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

Data Link: UniProtKB:[Q96318](http://www.uniprot.org/entry/Q96318) (CRU3_ARATH)

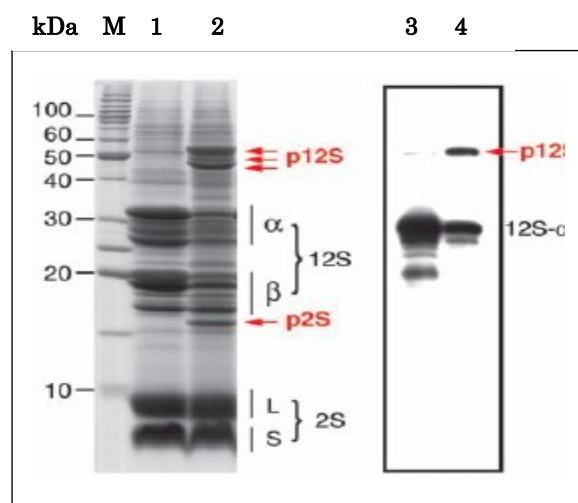


Fig.1 Western Blot of the precursor 12S globulin and 12S- α subunit of the mature forms in extract of arabidopsis dry seeds.

M: Protein size markers (kDa)

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 antibody was used at 1/5,000 dilution.

P12S is the precursor of 12S globulin.

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

Reference: This product has been used in the following publications.

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 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)

Related products.

81-121 Anti-At 2S3P (2S Albumin precursors) antibody, rabbit polyclonal

81-122 Anti-At 2S3M (2S Albumin mature forms) antibody, rabbit polyclonal