



## **Anti-CESA1 (Cellulose synthase A catalytic subunit 1) Phospho-Polyclonal Antibody**

**Category:** Phospho-Polyclonal Antibody

**Catalog #:** T166 Phospho-AB2I188

**Antigen Synonym:** F8B4.110, RSW1

**Species Reactivity:** Plant Thale cress (*Arabidopsis thaliana*)

### **Immunogen/Specificity:**

Polyclonal antibody produced in rabbits immunizing with a synthetic peptide corresponding to near N-terminal residues of Plant Thale cress (*Arabidopsis thaliana*) CESA1 (Cellulose synthase A catalytic subunit 1)

**Description:** CESA1 (Cellulose synthase A catalytic subunit 1) catalytic subunit of cellulose synthase terminal complexes ('rosettes'), required for beta-1,4-glucan microfibril crystallization, a major mechanism of the cell wall formation. CESA1 (Cellulose synthase A catalytic subunit 1) is involved in the primary cell wall formation. CESA1 (Cellulose synthase A catalytic subunit 1) is required during embryogenesis for cell elongation, orientation of cell expansion and complex cell wall formations, such as interdigitated pattern of epidermal pavement cells, stomatal guard cells and trichomes. CESA1 plays a role in lateral roots formation, but seems not necessary for the development of tip-growing cells such as root hairs. The presence of each protein CESA1 and CESA6 is critical for cell expansion after germination.

CESA1 interacts with CESA3 and CESA6. Assembly with CESA3 and CESA6 is required for functional complex in primary cell wall cellulose synthesis.

CESA1 is expressed in germinating seeds, seedlings, roots, stems, shoots leaves and flowers, but not in mature flowers. CESA1 is expressed throughout the embryo during all steps of embryogenesis, and decrease toward the bent-cotyledon stage. Higher levels in tissues undergoing primary cell wall formation, and drop of expression when secondary wall synthesis takes place. High levels in developing seedlings and elongating stems, with a decrease at later growth stages.

### **Reference:**

- Arioli,T., et al, *Science* 279 (5351), 717-720 (1998)
- Richmond,T., *Genome Biol.* 1 (4), REVIEWS3001 (2000)
- Peng,L., et al, *Planta* 211 (3), 406-414 (2000)
- Fagard,M., et al, *Plant Cell* 12 (12), 2409-2424 (2000)
- Scheible,W.R., et al, *Proc. Natl. Acad. Sci. U.S.A.* 98 (18), 10079-10084 (2001)
- Williamson,R.E., et al, *Protoplasma* 215 (1-4), 116-127 (2001)
- Sugimoto,K., et al, *Protoplasma* 215 (1-4), 172-183 (2001)
- Gillmor,C.S., et al, *J. Cell Biol.* 156 (6), 1003-1013 (2002)
- Ellis,C., et al, *Plant Cell* 14 (7), 1557-1566 (2002)
- Burn,J.E., et al, *Plant Physiol.* 129 (2), 797-807 (2002)

**For Research Use Only**