

## Anti-SPS (Sucrose-Phosphate Synthase, plant) antibody, rabbit polyclonal

Cat. # 81-039      Size: 200 µg

### Background:

Sucrose-phosphate synthase (SPS) plays a major role in photosynthetic sucrose synthesis by catalyzing the rate-limiting step of sucrose biosynthesis from UDP-glucose and fructose-6-phosphate. SPS is involved in the regulation of carbon partitioning in the leaves of plants. It may regulate the synthesis of sucrose and therefore play a major role as a limiting factor in the export of photo-assimilates out of the leaf. It plays a role for sucrose availability that is essential for plant growth and fiber elongation. It is required for nectar secretion.

### Specifications:

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

**Form:** 4 mg/ml in PBS, 50% glycerol. Filter sterilized. No preservative or carrier added.

**Purity:** IgG, affinity-purified with Protein A/G mix

**Immunogen:** Purified recombinant sugarcane SPS1 protein (C-terminal 362 amino acids with His6 Tag at the N-terminus)

**Reactivity:** Plant SPS proteins including those of maize and sugarcane

### Applications

1. Western blot (1/500- 1/2,000 dilution)
2. ELISA

Other applications have not been tested.

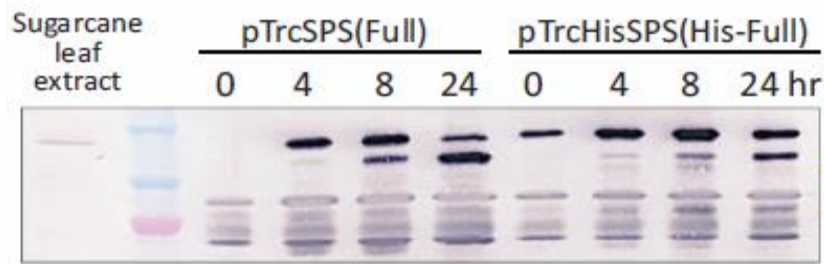
**Data Link:** UniProtKB [P93782](#) (P93782\_SACOF), [P31927](#)(SPSA\_MAIZE)

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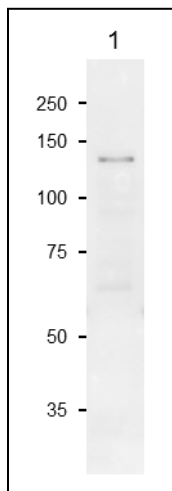
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**Fig. 1 Western blot detection of SPS protein.**

Detection of SPS in *E. coli* transformed with SPS 1 overexpressing plasmid, pTrcSPS (full length of SPS) or pTrcHisSPS (full length with His6 Tag). The bacteria were harvested at the time indicated above after induction with IPTG. The total bacterial cell proteins were analyzed by using the anti-SPS antibody. Sugarcane leaf extract was analyzed in 1<sup>st</sup> lane. The lower band is a truncated SPS protein.

Molecular size markers in the 2<sup>nd</sup> lane are 150, 100 and 75 kDa.



**Fig. 2 Western Blot of SPS in maize leaf extract.**

Anti-SPS antibody was used at 1/500 dilution. Secondary antibody (goat anti-rabbit IgG antibody HRP-conjugated, ab97051) was used at 1/10,000 dilution.

1. Maize leaf extract, 20 µg

Molecular mass of maize SPS is 119 kDa.

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

1. Sawitri WD, Narita H, Ishizaka-Ikeda E, Sugiharto B, Hase T, Nakagawa A. "Purification and characterization of recombinant sugarcane sucrose phosphate synthase expressed in *E. coli* and insect Sf9 cells: an importance of the N-terminal domain for an allosteric regulatory property." *J Biochem.* 2016 Jun;159(6):599-607. PMID: [26826371](https://pubmed.ncbi.nlm.nih.gov/26826371/) WB: Sugarcane

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