

Product no **AS20 4426****Glutamine synthetase (leaf,root)****Product information**

<b>Immunogen</b>	Purified full length, tag cleaved, recombinant <i>Zea mays</i> GS-1 (Glutamine synthetase, root isozyme 1) UniProt: <a href="#">P38559</a>
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Purity</b>	Total IgG. Protein A purified in PBS, 50% glycerol. Filter sterilized.
<b>Format</b>	Liquid at 2 mg/ml.
<b>Quantity</b>	100 µg
<b>Storage</b>	Store at -20 °C; once reconstituted make aliquots to avoid repeated freeze-thaw cycles. Please remember to spin the tubes briefly prior to opening them to avoid any losses that might occur from material adhering to the cap or sides of the tube.

**Additional information** | This antibody reacts with all glutamine synthetase isotypes from leaf and root

**Application information**

**Recommended dilution** | assay dependent (ELISA), 1: 1000 - 1: 5000 (WB)

**Expected | apparent MW** | 39 kDa | 43 kDa (chloroplast isoform)

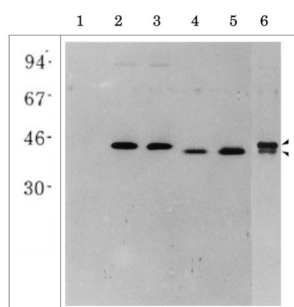
**Confirmed reactivity** | *Arabidopsis thaliana*, *Spinacia oleracea*, *Zea mays*

**Predicted reactivity** | *Brachypodium distachyon*, *Cucurbita moschata*, *Glycine max*, *Medicago truncatula*, *Oryza sativa*, *Panicum hallii*, *Pontederia crassipes*, *Populus tremula x Populus alba*, *Prunus persica*, *Raphanus sativus*, *Saccharum officinarum*, *Setaria italica*, *Sorghum bicolor*, *Triticum aestivum*  
Species of your interest not listed? [Contact us](#)

**Not reactive in** | No confirmed exceptions from predicted reactivity are currently known

**Additional information** | No confirmed exceptions from predicted reactivity are currently known

**Selected references** | [Kimata-Arigo](#) and Hase (2014). Multiple complexes of nitrogen assimilatory enzymes in spinach chloroplasts: possible mechanisms for the regulation of enzyme function. PLoS One . 2014 Oct 1;9(10):e108965. doi: 10.1371/journal.pone.0108965.  
[Sakaibara](#) et al. (1996). Molecular identification and characterization of cytosolic isoforms of glutamine synthetase in maize roots. J Biol Chem. 1996 Nov 22;271(47):29561-8. doi: 10.1074/jbc.271.47.29561.



Recombinant root type GS isoproteins from *Zea mays* expressed in *E.coli*, negative control without recombinant GS (1), GS1-1 expressing extract (2), GS1-2 expressing extract (3), GS1-3 expressing extract (4), GS1-4 expressing extract (5), *Zea mays* root extracted treated with ammonia (6) were freshly extracted with 2x SDS-sample buffer (+ 2ME) for SDS-PAGE and denatured with 4X SDS buffer at 95 °C for 5 min. Samples were separated on 10% SDS-PAGE and blotted 1h to PVDF membrane. Blot was blocked with 3 % skim milk/TBS-T, 1h/RT with agitation. Blot was incubated in the primary antibody at a dilution of 1: 2500 in TBS-T for 1h/RT. The antibody solution was decanted and the blot was washed 4 times for 10 min in TBS-T at RT with agitation. Blot was incubated in matching secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated) diluted to 1:10 000 in for 1h/RT with agitation. The blot was washed as above and developed with a chemiluminescent detection reagent, following manufacture's recommendation.

The lower band in endogenous extract is ammonia induced GS.

2 µg of *Arabidopsis thaliana* total leaf extract **(1)**, 2 µg of *Zea mays* total leaf extract **(2)**, were freshly extracted with 2x SDS-sample buffer (+ 2ME) for SDS-PAGE and denatured with 4X SDS buffer at 95°C for 5 min. Samples were separated on 10% SDS-PAGE and blotted 1h to PVDF membrane. Blot was blocked with 3 % skim milk/TBS-T, 1h/RT with agitation. Blot was incubated in the primary antibody at a dilution of 1: 1000 in TBS-T for 1h/RT. The antibody solution was decanted and the blot was washed 4 times for 10 min in TBS-T at RT with agitation. Blot was incubated in matching secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated) diluted to 1:10 000 in for 1h/RT with agitation. The blot was washed as above and developed with a chemiluminescent detection reagent, following manufacture's recommendation.

MW of GS1 isoproteins: 38-40 kDa and this antibody reacts with both leaf and root isoforms. Maize leaf contains both types. The upper band with asterisk corresponds to leaf isoform (chloroplastic), while the lower two bands correspond to root isoforms GS1-1 or/and GS1-2 (upper band) or/and GS1-4 (lower band).