

product **AS08 296**

GLN2 | GS2, chloroplastic form of glutamine synthetase

product information

background	Glutamine synthetase (GLN or GS) is one of the key enzymes involved in nitrogen metabolism of plants. It catalyses the synthesis of glutamine from glutamate and ammonia in an ATP-dependent reaction. There are two general classes of glutamine synthetase in plants: GLN1, a cytosolic form and GLN2, a chloroplastic form. GLN2 is encoded by a single gene and is highly abundant in mesophyll cells of leaves for the assimilation of ammonia produced from photorespiration and the reduction of nitrate in the chloroplasts.
immunogen	<u>KLH</u> -conjugated synthetic peptide which is a part of part of the glutamine synthetase/guanido kinase superfamily catalytic region
antibody format	rabbit polyclonal serum lyophilized
quantity	400 µl for reconstitution add 400 µl of sterile water.
storage	store lyophilized/reconstituted at -20°C; once reconstituted make aliquots to avoid repeated freeze-thaw cycles. Please, remember to spin tubes briefly prior to opening them to avoid any losses that might occur from lyophilized material adhering to the cap or sides of the tubes.
tested applications	western blot (WB)
additional information	to be added when available

application information

recommended dilution	1:5000 on 0.5-5 µg protein/lane with ECL Advance detection (WB)
expected apparent MW	47 44-45 kDa
confirmed reactivity	<i>Arabidopsis thaliana</i> , <i>Pisum sativum</i> , <i>Spinacia oleracea</i>
predicted reactivity	dicots including: <i>Brassica napus</i> , <i>Glycine max</i> , <i>Phaseolus vulgaris</i> , monocots including: <i>Hordeum vulgare</i> , <i>Oryza sativa</i> , <i>Triticum aestivum</i> , <i>Zea mays</i> , trees: <i>Pinus sylvestris</i> , <i>Populus sp.</i> , moss: <i>Physcomitrella patens</i> ,
not reactive in	no confirmed exceptions from predicted reactivity known in the moment
additional information	to be added when available
selected references	to be added when available

application example

0.5 µg of protein from *Arabidopsis thaliana* total leaf fraction (**1**), **5 µg of protein** from *Spinacia oleracea* chloroplast enriched fraction (**2**), molecular weight markers (MagicMark™, Invitrogen) (**M**), the same samples as in 1 and 2 but after peptide neutralisation assay, e.g. incubation of the antibody with 100 mM excess of peptide used to elicit anti-GLN2 antibody (**4,5**), extracted with PEB (**AS08 300**), were separated on **4-12% NuPage** (Invitrogen) **LDS-PAGE** and blotted 1h to **PVDF** (Millipore). Filters were blocked 1h with 2% low-fat **milk powder** in TBS-T (0.1% TWEEN 20) and probed with anti-GLN2 antibody (AS08 296, **1:5 000**, 1h) and secondary anti-rabbit (**1:20000**, 1 h) antibody (HRP conjugated, Abcam) in TBS-T containing 2% low fat milk powder. Antibody incubations were followed by washings in TBS-T. All steps were performed at RT with agitation. Blots were developed for 5 min with ECL Advance detection reagent according the manufacturers instructions (GE Healthcare). Images of the blots were obtained using a CCD imager (FluorSMax, Bio-Rad) and Quantity One software (Bio-Rad).

