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This product is **for research use only** (not for diagnostic or therapeutic use) **contact: support@agrisera.com**

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Product no 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. GLN2 is a target for thioredoxin.
Immunogen	KLH-conjugated synthetic peptide which is a part of part of the glutamine synthetase/guanido kinase superfamily catalytic region chosen from various available sequences, including *Arabidopsis thaliana* GLN2, UniProt: Q43127, TAIR: AT5G35630
Host	Rabbit
Clonality	Polyclonal
Purity	Serum
Format	Lyophilized
Quantity	400 µl
Reconstitution	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)
Related products	AS08 295 | Anti-GLN1 GLN2 | GS1 glutamine synthetase global antibody
Additional information	This product can be sold contacining proclin if requested

Application information

Recommended dilution	1 : 5000 on 0.5-5 ug protein/lane detection (WB)
Expected | apparent MW	47 | 44-45 kDa
Confirmed reactivity	*Arabidopsis thaliana, Oryza sativa, Pisum sativum, Spinacia oleracea*
Predicted reactivity	*Brassica napus, Glycine max, Hordeum vulgare, Medicago truncatula, Pinus sylvestris, Phaseolus vulgaris, Physcomitrella patens, Populus sp., Triticum, aestivum, Zea mays* Species of your interest not listed? Contact us
Not reactive in	Diatoms
Selected references	Chen et al. (2018). TIC236 links the outer and inner membrane translocons of the chloroplast. Nature. 2018 Dec;564(7734):125-129. doi: 10.1038/s41586-018-0713-y. Dixit (2015). Sulfur alleviates arsenic toxicity by reducing its accumulation and modulating proteome, amino acids and thiol metabolism in rice leaves. Sci Rep. 2015 Nov 10;5:16205. doi: 10.1038/srep16205. Lee et al. (2013). Stromal protein degradation is incomplete in Arabidopsis thaliana autophagy mutants undergoing natural senescence. BMC Res Notes, Jan 17. Hu and Li (2012). The amino-terminal domain of chloroplast Hsp93 is important for its membrane association and functions in vivo. Plant Physiol. Apr;158(4):1656-65. doi: 10.1104/pp.112.193300. Epub 2012 Feb 21.

For high resolution images, please visit the specific product page at www.agrisera.com

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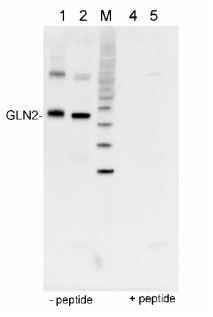
Application example



0.5 µg of protein from Arabidopsis thaliana total leaf fraction **(1)**, **5 µg of protein** from*Spinacia oleracea* chlorplast enriched fraction **(2)**, molecular weight markers (MagicMark^{TM},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 andt-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) 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 chemiluminescent detection reagent according the manufacturers instructions. Images of the blots were obtained using a CCD imager (FluorSMax, Bio-Rad) and Quantity One software (Bio-Rad).