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product AS10 689

GluTR | glutamyl -tRNA reductase

product information

background	**GluTR** (glutamyl tRNA reductase) belongs to a family of oxidoreductases and is involved in porphyrin and chlorophyll biosynthesis. This enzyme class is called L-glutamate-semialdehyde: NADP+ oxidoreductase (L-glutamyl-tRNAGlu-forming). !!!
immunogen	KLH-conjugated peptide derived from available glutamyl-tRNA reductase sequences including *Arabidopsis thaliana* P49294
antibody format	rabbit polyclonal serum lyophilized
quantity	200 µl for reconstitution add 200 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	
additional information	Antibody reacts with recombinant GluTR isoforms: AtGluTR1, AtGluTR2 and NtGluTR1 (At - *Arabidopsis thaliana*, Nt - Nicotiana tabacum).

application information

recommended dilution	1: 5000 with standard ECL (WB)
expected | apparent MW	58 | kDa (*Arabidopsis thaliana*)
confirmed reactivity	*Arabidopsis thaliana, Hordeum vulgare* !!!
predicted reactivity	dicots including: *Brassica napus, Glycine max*, *Pisum sativum, Solanum tuberosum, Sorghum bicolor, Ricinus communis, Vitis vinifera,* monocots including: *Hordeum vulgare, Oryza sativa, Zea mays*, trees: *Picea sitchensis, Populus trichocarpa*, moss: *Physcomitrella patens*, algae: *Chlamydomonas reinhardtii*

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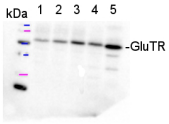
not reactive in	cyanobacteria
additional information	to be added when available
selected references	Nishimura et al. (2013). ClpS1 Is a Conserved Substrate Selector for the Chloroplast Clp Protease System in *Arabidopsis*. *The Plant Cell June 2013*.

application example



10 ul of leaf extract which was equivalent to 1 mg leaf material was loaded per lane, which may also correspond to approximately 50 ug protein. *Arabidopsis thaliana* seedlings were grown on vermiculite for 3 weeks under continuous illumination at a light intensity of 80 uE m-2 s-1 at 22°C. Twenty mg leaf material was collected from mature leaves and extracted with 200 ul of the tissue homogenization buffer. 10 ul of leaf extract which was equivalent to 1 mg leaf material was loaded per lane. Detection Protocol: Leaf protein was separated on 14% SDS-PAGE and blotted 2h to PVDF membrane from GE Healthcare. The blot was blocked with PBS-T (PBS plus 0.1% tween 20) containing 3% skim milk for 1h at room temperature (RT: approximately 22 degrees C) with gentle agitation. The blots were briefly washed twice with PBS-T and then incubated with anti-GluTR antibody which was diluted 1:1000 with PBS-T for 1h at RT with agitation. The primary antibody solution was decanted and the blot was rinsed twice, when washed once for 10 min and 3 times for 5 min in PBS-Tcontaining 0.5% (w/v) skim milk at RT with agitation. The blot was incubated with the secondary antibody (HRP-conjugated anti-rabbit IgG) which was diluted 1:20 000 with PBS-T containing 0.5% (w/v) skim milk for 1h at RT with agitation. The blot was washed as described above and incubated with Western Lightning Plus-ECL from Perkin-Elmer for 1 min. The chemiluminescent signal was captured with a CCD camera (LumiVision: Aisin Seiki Inc. Aichi, Japan) for 60 s.

Plant material grown for the experiment illustrated below: barley seeds were sawn on vermiculite and grown for 6 days in darkness at 22°C. Subsequently, seedlings were illuminated for 24 hours under a light intensity of 80 uE m-2 s-1. Approximately, 100 mg of *Hordeum vulgare* leaf material was harvested before illumination **(1)**, and 2 h **(2)**, 6 h **(3)** and 24 hours **(4)** after the onset of light; *Arabidopsis thaliana* wt **(5)**. Each leaf material was extracted with 1 ml of the tissue homogenization solution (50 mM Tris Cl pH8.0, 2% Lithium Dodesyl Sulfate, 12% sucrose, 1.5% dithiothreitol).

Courtesy of Kaori TAKAHASHI and Ryouichi TANAKA (Hokkaido University)