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Product no AS08 310

NR | Nitrate reductase, assimilatory

Product information

Immunogen	KLH-conjugated synthetic peptide derived from conserved domain in NADH-NR protein sequences including *A.thaliana* NR1 P11832, At1g77760 and NR2 P11035, At1g37130
Host	Rabbit
Clonality	Polyclonal
Purity	Immunogen affinity purified serum in PBS pH 7.4.
Format	Lyophilized
Quantity	100 µg
Reconstitution	For reconstitution add 50 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 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.

Application information

Recommended dilution	1 : 500 -1 : 1000 (WB)
Expected | apparent MW	103 kDa | 117 kDa
Confirmed reactivity	*Arabidopsis thaliana, Chlamydomonas reinardtii,* red alga *Gracilaria gracilis*, *Hordeum vulgare,Leptodictyum riparium* (Hedw.) Warnst (moss), *Medicago sativa, Phaeodactylum tricornutum* Bohlin accession Pt1 8.6*, Panax notoginseng, Populus yunanensis* Dode*, Solanum lycopersicum, Solanum tuberosum, Thalassiosira sp.* (diatom)*, Trebouxia* sp.*,Vigna radiata, Vitis vinigera*
Predicted reactivity	*Arabis alpina, Brachypodium distachyon, Brassica napus, Brassica rapa subsp. pekinensis, Capsella rubella, Citrus clementina, Citrus sinensis, Chlorella vulgaris, Dunaliella salina, marine Diatoms, Coffea canephora, Eucalyptus grandis, Glycine max, Glycine soja, Gossypium arboretum, Helianthus annuus, Lycopersicum esculentum, Morus alba, Nannochloropsis gaditana, Nicotiana tabacum, Nicotiana attenuata, Nicotiana benthamiana, Oryza sativa, Phaseolus vulgaris, Phytophthora infestans, Physcomitrium patens, Prunus persica, Ricinus communis, Sorghum bicolor, Spinacia oleracea, Solanum lycopersicum, Symbiodinium microadriaticum, Theobroma cacao, Zea mays* Species of your interest not listed? Contact us
Not reactive in	*Aspergilus niger, Emiliania huxleyi, Tisochrysis lutea*
Additional information	In *Chlamydmonas reinhardtii* anti-NR antibody is also reacting with L-Aminoacid Oxidase (a nitrogen scavenging enzyme induced during nitrogen starvation). Using this antibody genome editing in *Chlorella vulgaris* UTEX395 by CRISPR-Cas9 system has been demonstrated as described in Kim et al. (2021) Chemiluminescent detection is advised for NR detection using this antibody.
Selected references	Expósito et al. (2023). Symbiotic interactions in the lichen R. farinacea dramatically modify NO biosynthetic source in Trebouxia microalgae.Algal Research Volume 75, September 2023, 103247. Costa-Broseta et al. (2021). Post-Translational Modifications of Nitrate Reductases Autoregulates Nitric Oxide Biosynthesis in Arabidopsis. Int J Mol Sci. 2021 Jan 7;22(2):E549. doi: 10.3390/ijms22020549. PMID: 33430433. Kim et al. (2021). Establishment of a Genome Editing Tool Using CRISPR-Cas9 in Chlorella vulgaris UTEX395. Int J Mol Sci. 2021 Jan 6;22(2):E480. doi: 10.3390/ijms22020480. PMID: 33418923. Prinsi et al. (2021). Biochemical and Proteomic Changes in the Roots of M4 Grapevine Rootstock in Response to Nitrate Availability. Plants 10, no. 4: 792. https://doi.org/10.3390/plants10040792 Maresca et al. (2021) Biological responses to heavy metal stress in the moss Leptodictyum riparium (Hedw.) Warnst. Ecotoxicol Environ Saf. 2022 Jan 1;229:113078. doi: 10.1016/j.ecoenv.2021.113078. Epub 2021 Dec 17. PMID: 34929502. Zhang et al. (2020). Hydrogen sulfide and rhizobia synergistically regulate nitrogen (N) assimilation and remobilization during N deficiency-induced senescence in soybean. Plant Cell Environ. 2020 Feb 3. doi: 10.1111/pce.13736.

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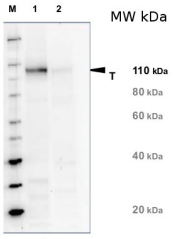
Application example



20 µg of total protein from *Arabidopsis thaliana* leaf **(1)** and *Hordeum vulgare* leaf **(2)** were extracted with Protein Extraction Buffer PEB (AS08 300). Samples were diluted with 1X sample buffer (NuPAGE LDS sample buffer (Invitrogen) supplemented with 50 mM DTT and heat at 70°C for 5 min and keept on ice before loading. Protein samples were separated on 4-12% Bolt Plus gels, LDS-PAGE and blotted for 70 minutes to PVDF using tank transfer. Blots were blocked immediately following transfer in 2% blocking reagent or 5% non-fat milk dissolved in 20 mM Tris, 137 mM sodium chloride pH 7.6 with 0.1% (v/v) Tween-20 (TBS-T) for 1h at room temperature with agitation. Blots were incubated in the primary antibody at a dilution of 1: 5 000 (in blocking reagent) for 1h at room temperature with agitation. The antibody solution was decanted and the blot was rinsed briefly twice, and then washed 1x15 min and 3x5 min with TBS-T at room temperature with agitation. Blots were incubated in secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated, recommended secondary antibody AS09 602, Agrisera) diluted to 1:20 000 in blocking reagent for 1h at room temperature with agitation. The blots were washed as above. The blot was developed for 5 min with chemiluminescent detection reagent pf extreme femtogram range, according the manufacturers instructions. Images of the blots were obtained using a CCD imager (VersaDoc MP 4000) and Quantity One software (Bio-Rad). Exposure time was 5 minutes.