

product **AS01 021A**
NifH | nitrogenase iron protein

product information

background	Nitrogenase is involved in biological fixation of nitrogen to assimilable ammonia. Alternative protein names: nitrogenase component II, nitrogenase Fe protein, nitrogenase reductase
immunogen	<u>KLH</u> -conjugated synthetic peptide derived from known bacterial NifH subunits of bacterial nitrogenase enzymes of the FeMoCo type including <i>Synechococcus</i> sp. <u>Q2JP78</u> , <i>Trichodesmium theibautii</i> , <i>Anabaena</i> sp. <u>P33178</u> and <i>Nostoc</i> sp. <u>Q51296</u>
antibody format	hen polyclonal affinity purified IgY in PBS pH 8.0+ 0.02% sodium azide liquid
quantity	200 µg
storage	store at 4 °C; make aliquots to avoid working with a stock. Please, remember to spin tubes briefly prior to opening them to avoid any losses that might occur from liquid material adhering to the cap or sides of the tubes.
tested applications	western blot (WB)
additional information	antibody concentration is 1.36 µg/µl recommended secondary antibodies

application information

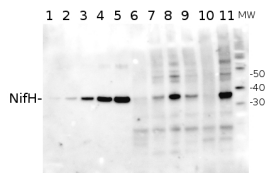
recommended dilution	1: 2 000 (WB)
expected apparent MW	27 32.5 kDa
confirmed reactivity	<i>Anabaena</i> PCC7120, <i>Frankia</i> sp. , <i>Nostoc</i> sp, <i>Trichodesmium</i> sp.
predicted reactivity	<i>Desulfotomaculum reducens</i> (strain MI-1), <i>Clostridium cellobioparum</i> , <i>Frankia</i> sp. (strain EAN1pec), <i>Magnetococcus</i> sp., <i>Methanobacterium thermoautotrophicum</i> , <i>Methanococcus maripaludis</i> , <i>Methylobacterium</i> sp alpha,gamma,beta proteobacteria, enterobacteria, low GC gram+, high GC gram +, euryarchaeotes, <i>Azotobacter vinelandii</i> (Gram-), cyanobacteria
not reactive in	<i>Synechococcus</i> sp. PCC 7942 and <i>Synechocystis</i> sp. PCC 6803 as NifH protein is not present in those cyanobacterial species
additional information	This antibody is not suitable for immunolocalization studies on bacterial cultures An enzyme involved in chlorophyll synthesis, present in all cyanobacteria (fixing and non-nitrogen fixing) is a member of the NifH family/superfamily. Agrisera anti-NifH antibody will not show a strong reactivity to this target.

selected references

[Levitan](#) et al. (2010). Regulation of nitrogen metabolism in the marine diazotroph *Trichodesmium* IMS101 under varying temperatures and atmospheric CO concentrations. *Environ. Microbiol* (Epub ahead of print)

[Küpper](#) et al. (2008). Iron limitation in the marine cyanobacterium *Trichodesmium* reveals new insights into regulation of photosynthesis and nitrogen fixation. *New Phytol.* 179: 784-798.

application example



Total *Trichodesmium* sp. protein extract (lanes 6-11, 80 pmol chlorophyll loaded) extracted with PEB ([AS08 300](#)), and NifH protein standard (lanes 1-5, 0.05, 0.1, 0.3 0.75 and 1.5 pmol standard loaded) were separated on 4-12% NuPage (Invitrogen) LDS-PAGE and blotted 1h to **PVDF**. Blots were blocked immediately following transfer in 2% ECL Advance blocking reagent (GE Healthcare) 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 1:40 000 for 1h at room temperature with agitation. The antibody solution was decanted and the blot was rinsed briefly twice, then washed once for 15 min and 3 times for 5 min in TBS-T at room temperature with agitation. Blots were incubated in secondary antibody (anti-hen IgY horse radish peroxidase conjugated, from Abcam) diluted to 1:50 000 in 2% ECL Advance blocking solution for 1h at room temperature with agitation. The blots were washed as above and developed for 5 min with ECL Advance detection reagent according to the manufacturer's instructions. Images of the blots were obtained using a CCD imager (FluorSMax, Bio-Rad) and Quantity One software (Bio-Rad).