

Supplementary information

Knockdown of the partner protein OsNAR2.1 for high-affinity nitrate transport represses lateral root formation in a nitrate-dependent manner

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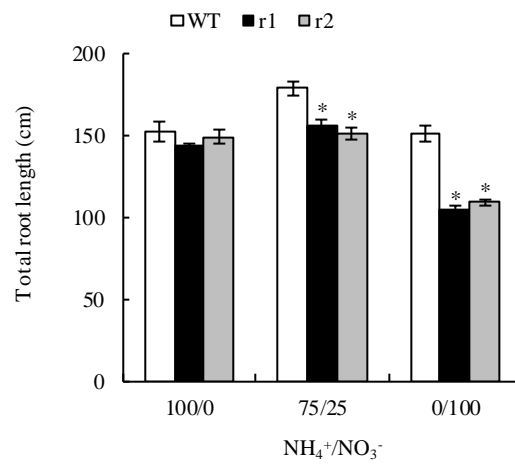
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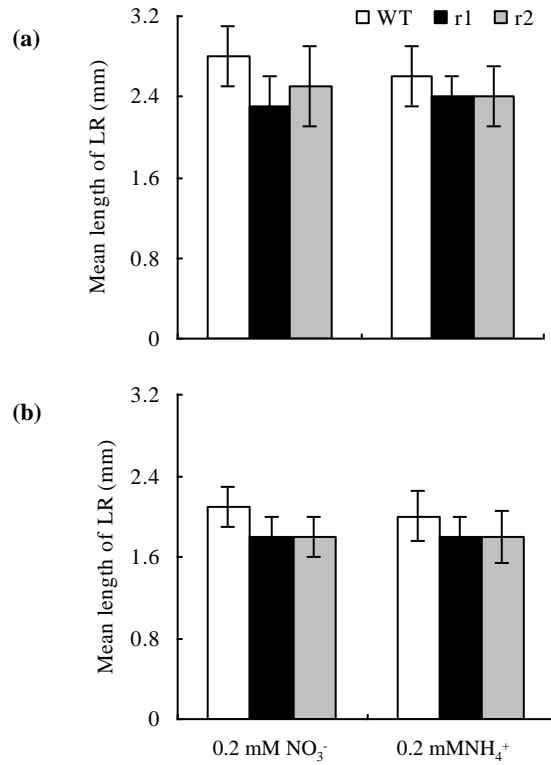
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SupplementaryTable S1 The primers for qRT-PCR of OsPIN family genes

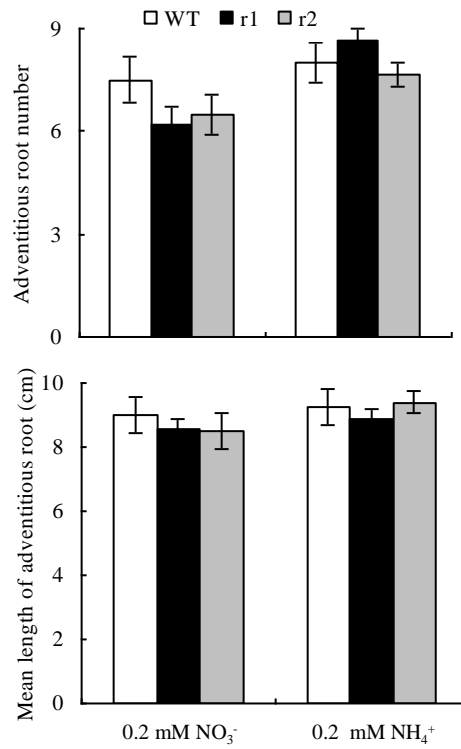
Gene	Primer sequence
<i>OsPIN1a</i>	5'-TCATCTGGTCGCTCGTCTGC-3' 5'-CGAACGTCGCCACCTTGTTTC-3'
<i>OsPIN1b</i>	5'-TGCACCCTAGCATTCTCAGCA-3' 5'-CCCTCCTCCCAAATTCTACTT-3'
<i>OsPIN1c</i>	5'-CCGTCAGGTTCTCGTGGGT-3' 5'-TCACGGCTGTGCTCAGAATG-3'
<i>OsPIN1d</i>	5'-GATTCCGACGTCGTCTCGCTCG-3' 5'-GTCGGGTTCCGCGACGACTGCA-3'
<i>OsPIN2</i>	5'-CAACACCTACTCCAGCCTC-3' 5'-TGGACCAGTCAAGAACCTC-3'
<i>OsPIN5a</i>	5'-GGGGCTGGTGCTAAAGTTCG-3' 5'-TGAGGTAGGGCTGCCTGTATG-3'
<i>OsPIN5b</i>	5'-GGGCAGCAGGAGAGGGTGATAG-3' 5'-GAATCGGCAGAGAGATCAATGT-3'
<i>OsPIN5c</i>	5'-CTTCACCGCCGACCAGTGCGAC-3' 5'-GTGATGCACCACGAGAACCCGC-3'
<i>OsPIN8</i>	5'-GTTCCACTATATGTAGCTATGATAC-3' 5'-CAGTCAAACCTTCTCTGCACAGC-3'
<i>OsPIN9</i>	5'-GATACAAGATAGCGTCGTTCTC-3' 5'-ATGATGTCTGCGTGGACCT-3'
<i>OsPIN10a</i>	5'-GTTGGATTGAGATAGGCTGAGGAG-3' 5'-ATGGCGACGAAGCGGTTGAT-3'
<i>OsPIN10b</i>	5'-TCCGATGCAGGGTTAGGC-3' 5'-AGGATGGTAGCGTGGAGGTT-3'



Supplementary Figure S1. Root morphology of the wild-type (WT) and *osnar2.1* knockdown lines (r1 and r2) under three NH₄⁺/NO₃⁻ ratios at a total N concentration of 0.2 mM. Total root length was measured after the seedlings were grown for 1 wk in hydroponic media containing three ratios of NH₄⁺/NO₃⁻. Values are means ± SE (n = 6). *, P < 0.05 (ANOVA) comparing WT plants and two mutant lines in the same treatment.



Supplementary Figure S2. Mean length of lateral root (LR) in seminal (a) and adventitious (b) roots in wild-type (WT) and *osnar2.1* knockdown lines (r1 and r2). Rice seedlings were grown for 1 wk in hydroponic media containing 0.2 mM NO₃⁻ or NH₄⁺. Values are means \pm SE (n=6).



Supplementary Figure S3. Adventitious root number and mean adventitious root length in the wild-type (WT) and *osnar2.1* knockdown lines (r1 and r2). Rice seedlings were grown for 1 wk in hydroponic media containing 0.2 mM NO₃⁻ or NH₄⁺. Values are means ± SE (n=6).