Root system size and root hair length are key phenes for nitrate acquisition and biomass production across natural variation in Arabidopsis

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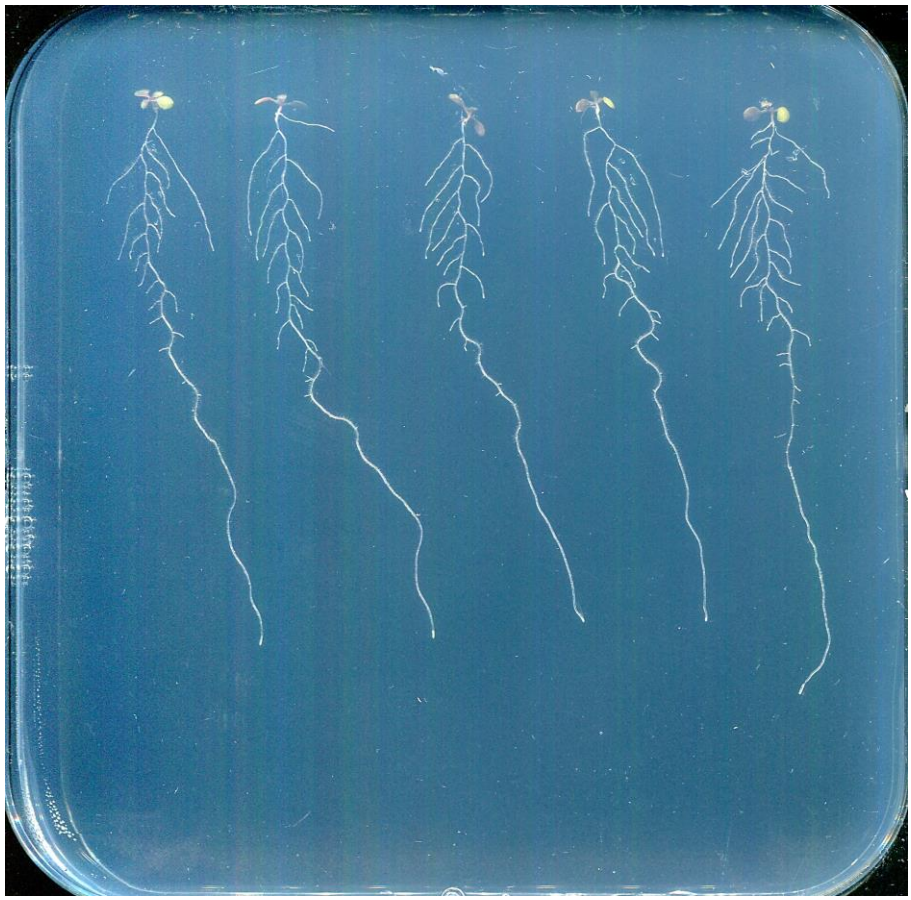

Fig. S1 Illustration of Arabidopsis seedlings grwon *in vitro* culture in petri dishes. Scan of one plate containing five seedlings of *Arabidopsis thaliana* Columbia-0 (Col-0). Seeds were plated on 1 x Murashige and Skoog medium, with the nitrate concentration modified to 0.010 mM. Pictures was taken 13 days after germination. Scale bar: 1 cm

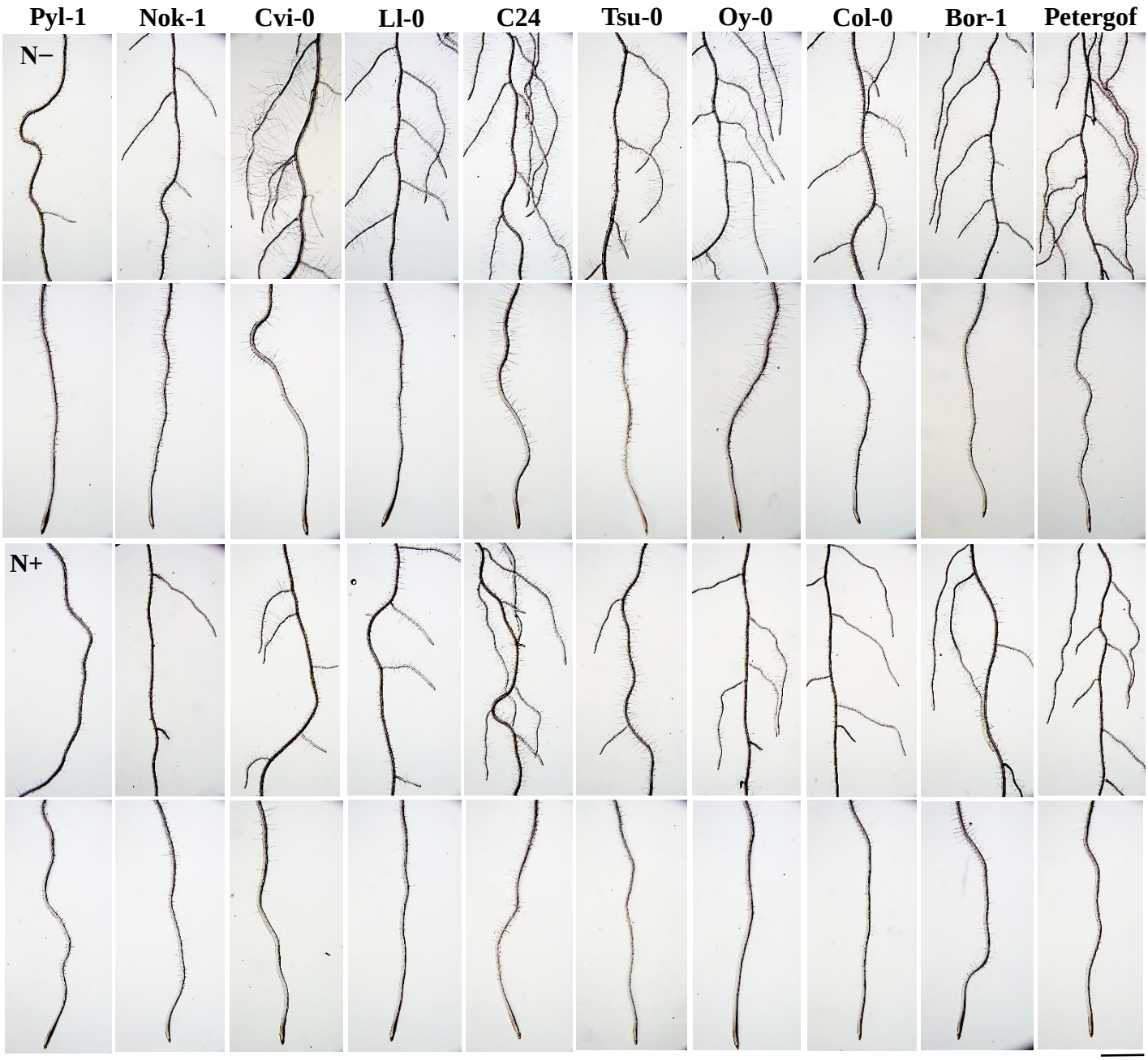

Fig. S2. Representative root hair phenotypes of the Arabidopsis accessions in response to nitrate supply. The accessions were grown with 0.01 mM (N−) or 10 mM (N+) nitrate supplies, as described in Fig. 1. Pictures of primary root (branched zone) and root tip were taken 13 days after germination. Scale bar: 1 mm.

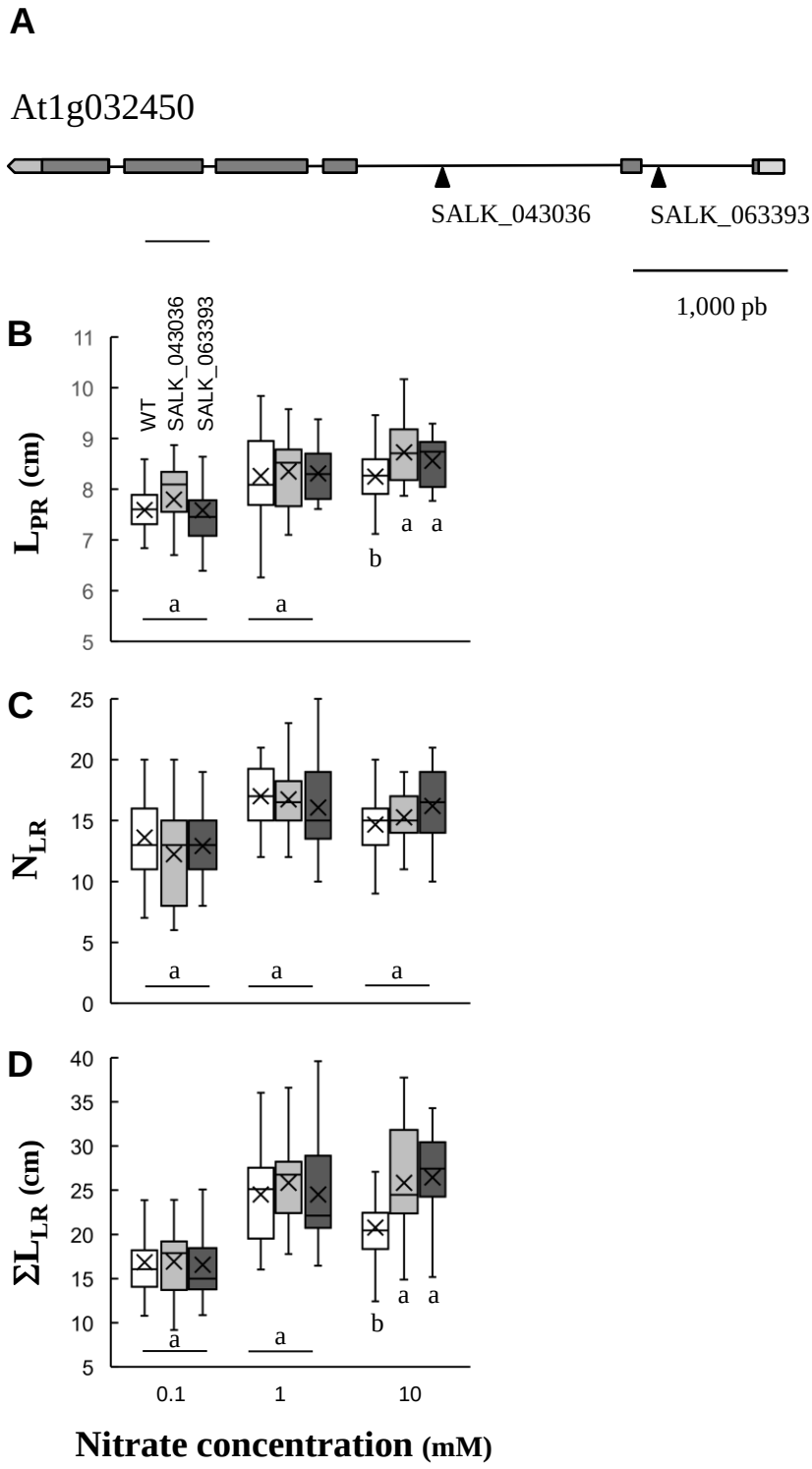

Fig. S3. T-DNA insertion sites in the mutant lines *nrt1.5/npf7.3* and root morphology in response to nitrate supply. A. Structure of the *NRT1.5*/*NPF7.3* gene and T-DNA insertion sites in the mutant lines. The T-DNA insertions are shown in SALK_043036 and SALK_063393 lines. Scale bar: 1,000 pb. B-C Root morphological traits. (A) length of the primary root (L_{PR}); (B) number of lateral roots (N_{LR}); (C) sum of the length of lateral roots ($\sum L_{LR}$). Plants were grown on media containing with 0.1; 1 or 10 mM nitrate. Root morphological traits were measured 14 days after germination. White plot : Columbia-0 wild type (WT), light grey plot: SALK_043036, dark grey plot: SALK_063393. n = 20-30. Different letters below the boxplots designate significantly different genotypes within substrate nitrate conditions at $P < 0.05$ according to Fisher's least significant differences. Statistical treatment is shown in Table S3.