***Supplementary Information for***

**Smart root foraging strategy guides high adaptability of tea (*Camellia sinensis* L.) plants to potassium heterogeneity**

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**Figure S1.** A device for collecting root exudates from tea plant roots. An aerial view of the device for collecting root exudates **(A)**; Stereogram of the whole root exudate collection device **(B)**.

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**Table S1.** Primers used in qRT-PCR experiments.

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| --- | --- | --- |
| Gene ID | Forward 5'–3' | Reverse 5'–3' |
| TEA007938 | GCTTTGGGGAGATGCTGA | GAGTTTTCCGACGAACGAC |
| TEA028696 | ATCGTGAATCAGGTGGTATCT | GCATCCCTCAACAAAACAG |
| TEA006847 | AGGTGTTGCTTCCAAAATG | TGGCGAATGAGTTCTGCTA |
| TEA010322 | TAAACTATTACCCAAAATGCCC | AGAAAACCGCCCACGAAA |
| TEA034003 | ATTACGGACATTGAGATACACTT | CACTCCATACTGAGAACCTTTG |
| TEA026325 | GGATGGGATGTCAAGTATGC | TCTTCTGAGTGTTGCGAGTG |
| TEA021599 | TTCCACGATTGCTTTGTTC | TGGCAGCCTCTACCACTTC |
| TEA019040 | CGCACTATGACCCACTCTTC | TGTCCCTCAGTAAGTTCCATC |
| TEA008079 | TTTGAACCCATCAGCGACT | CGAAACTCCTTGTCCACGT |
| TEA008459 | CCCTACAGCCATAGTTACCG ' | TGTTGTTTTCCACCTTAGCC |
| TEA030958 | TCATCAACGCCAAGAACAC | GGTCGAGAACAGGGAGGG |
| TEA014414 | TCTTGGTCGTCTTGCTTCC | CAGCCTTTATGTCTTCTCCAC |
| TEA012890 | TTTCGTCAATGGGAGTGC | CAGGTTCCACCAACGCTAT |
| TEA025206 | GGTTGGTCTTGGTTCAGGG | TCTAATGCGGGTTGCTCT |
| TEA023936 | AATGGCTGTGACGGTTCTG | CATCTTGCCGCCCTACTG |
| TEA012804 | TGGCATCTCGCCCGTAAA | CGCCCTTTCTCCCGCTCT |
| TEA012891 | ATCTTCCCAGACCCACAAT | AGCACCACTCAAAGCCAC |
| TEA029495 | TCCTCGTCCGACCACTCT | GGATTTTCACGGGTTCTTG |
| TEA023084 | TGGAGGAGCAGGGACTAAA | TTGCTTATGCCACTGTTGAT |
| TEA005755 | CTGTGAACAAAGCCATCTCC | CACGGCATAGTTTATCCCTC |

**Figure S2.** Verification of the transcript levels obtained from RNA-seq using the qRT-PCR approach. Correlation analysis of the gene expression levels obtained from RNA-seq and qRT-PCR. Values are the log2 ratio (treatment / control) of gene expression. The ratios (treatment / control) were as follows: Sp.SK / U.SK, Sp.NK / U.NK, and U.SK / U.NK. All qRT-PCR assays were performed with three biological replicates.

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**Figure S3.** Temporal variations of organic acid contents of root exudates. Data are means ± SE (n=3).

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