

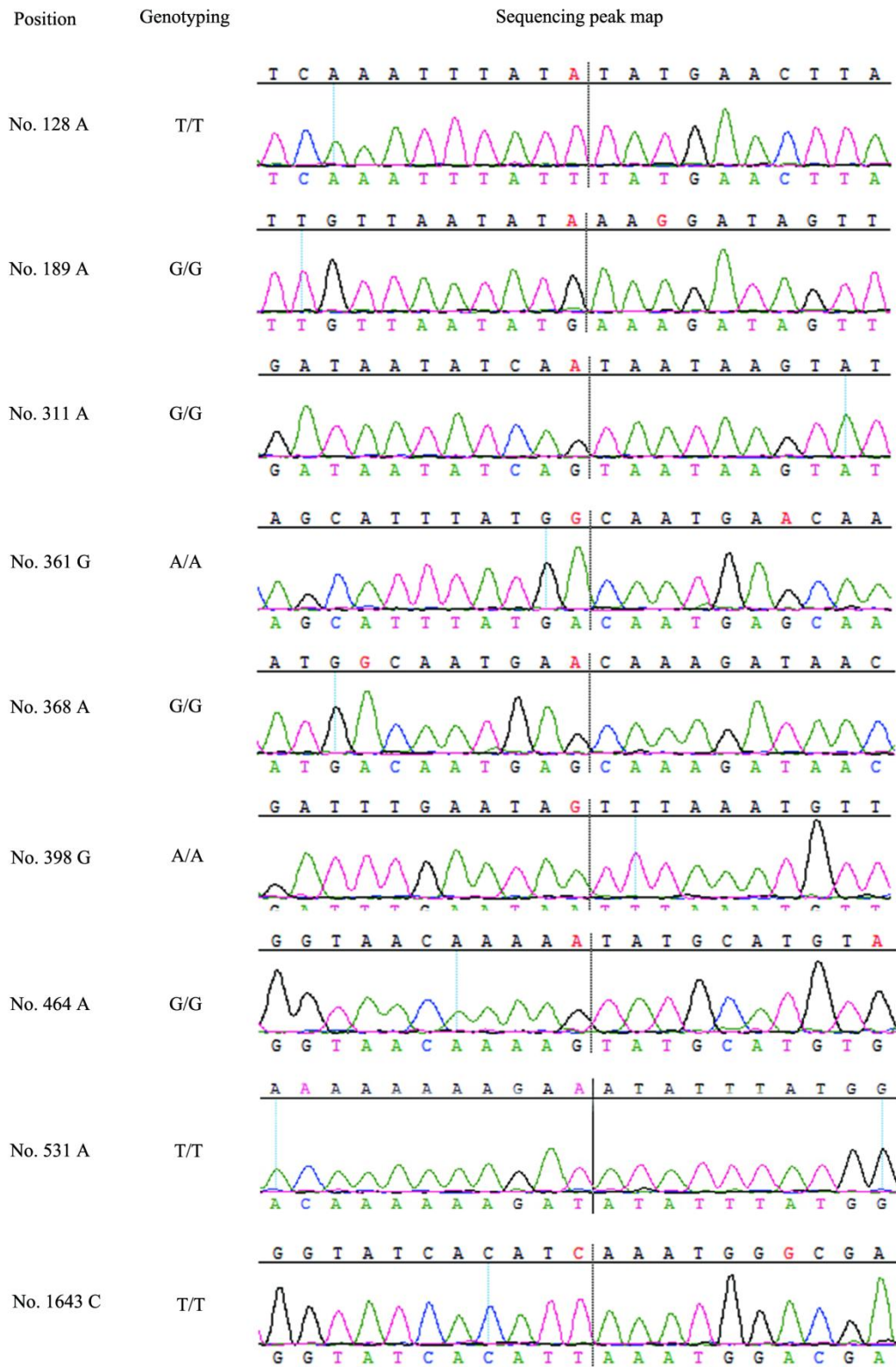
|              |  |     |
|--------------|--|-----|
| ENA CXJ03505 | GTAGTGATGAAAATGAATCAAATTTATATATGAACCTAACCTGGTGACAAA  | 150 |
| K173-2       | GTAGTGATGAAAATGAATCAAATTTATATATGAACCTAACCTGGTGACAAA  | 52  |
| A30-2        | GTAGTGATGAAAATGAATCAAATTTATTTATGAACCTAACCTGGTGACAAA  | 90  |
| A50-2        | GTAGTGATGAAAATGAATCAAATTTATTTATGAACCTAACCTGGTGACAAA  | 56  |
| P30-2        | GTAGTGATGAAAATGAATCAAATTTATTTATGAACCTAACCTGGTGACAAA  | 89  |
| P50-2        | GTAGTGATGAAAATGAATCAAATTTATTTATGAACCTAACCTGGTGACAAA  | 55  |
| Consensus    | gtagtgtgaaaaatgaatcaaatttatatgatgaacctaacctggtgacaaa |     |
| ENA CXJ03505 | AATGAAAAATAGAAGCAATAGCAGTTTTGTTAATAAAGGATAGTTT       | 200 |
| K173-2       | AATGAAAAATAGAAGCAATAGCAGTTTTGTTAATAAAGGATAGTTT       | 102 |
| A30-2        | AATGAAAAATAGAAGCAATAGCAGTTTTGTTAATAAAGGATAGTTT       | 140 |
| A50-2        | AATGAAAAATAGAAGCAATAGCAGTTTTGTTAATAAAGGATAGTTT       | 106 |
| P30-2        | AATGAAAAATAGAAGCAATAGCAGTTTTGTTAATAAAGGATAGTTT       | 139 |
| P50-2        | AATGAAAAATAGAAGCAATAGCAGTTTTGTTAATAAAGGATAGTTT       | 105 |
| Consensus    | aatgaaaaatagaagcaatagcagttttgttaataaaggatagttt       |     |
| ENA CXJ03505 | ATTAGAATCCATAGATTTAAGTGTCTTGATTCTAATTTTGATTCTAAAA    | 250 |
| K173-2       | ATTAGAATCCATAGATTTAAGTGTCTTGATTCTAATTTTGATTCTAAAA    | 152 |
| A30-2        | ATTAGAATCCATAGATTTAAGTGTCTTGATTCTAATTTTGATTCTAAAA    | 190 |
| A50-2        | ATTAGAATCCATAGATTTAAGTGTCTTGATTCTAATTTTGATTCTAAAA    | 156 |
| P30-2        | ATTAGAATCCATAGATTTAAGTGTCTTGATTCTAATTTTGATTCTAAAA    | 189 |
| P50-2        | ATTAGAATCCATAGATTTAAGTGTCTTGATTCTAATTTTGATTCTAAAA    | 155 |
| Consensus    | attagaatccatagatTTAAGTGTCTTGATTCTAATTTTGATTCTAAAA    |     |
| ENA CXJ03505 | ATGATTTCTTACCCAATAATTTTCTAAAAATTTAAATAATAACTAAA      | 300 |
| K173-2       | ATGATTTCTTACCCAATAATTTTCTAAAAATTTAAATAATAACTAAA      | 202 |
| A30-2        | ATGATTTTCTTACCCAATAATTTTCTAAAAATTTAAATAATAACTAAA     | 240 |
| A50-2        | ATGATTTTCTTACCCAATAATTTTCTAAAAATTTAAATAATAACTAAA     | 206 |
| P30-2        | ATGATTTTCTTACCCAATAATTTTCTAAAAATTTAAATAATAACTAAA     | 239 |
| P50-2        | ATGATTTTCTTACCCAATAATTTTCTAAAAATTTAAATAATAACTAAA     | 205 |
| Consensus    | atgatttcttaccctaataatTTTCTAAAAATTTAAATAATAACTAAA     |     |
| ENA CXJ03505 | GATAAATCAATAAATAAGTATTTAAATAAATACTTGAATAAAAATGATTC   | 350 |
| K173-2       | GATAAATCAATAAATAAGTATTTAAATAAATACTTGAATAAAAATGATTC   | 252 |
| A30-2        | GATAAATCAATAAATAAGTATTTAAATAAATACTTGAATAAAAATGATTC   | 290 |
| A50-2        | GATAAATCAATAAATAAGTATTTAAATAAATACTTGAATAAAAATGATTC   | 256 |
| P30-2        | GATAAATCAATAAATAAGTATTTAAATAAATACTTGAATAAAAATGATTC   | 289 |
| P50-2        | GATAAATCAATAAATAAGTATTTAAATAAATACTTGAATAAAAATGATTC   | 255 |
| Consensus    | gataaatca taataagtatttaataaataacttgaataaaaatgattc    |     |
| ENA CXJ03505 | AGCATTATGCAATGACAAAGATAACAATTCATAGATTGAAATAGTT       | 400 |
| K173-2       | AGCATTATGCAATGACAAAGATAACAATTCATAGATTGAAATAGTT       | 302 |
| A30-2        | AGCATTATGCAATGACAAAGATAACAATTCATAGATTGAAATAGTT       | 340 |
| A50-2        | AGCATTATGCAATGACAAAGATAACAATTCATAGATTGAAATAGTT       | 306 |
| P30-2        | AGCATTATGCAATGACAAAGATAACAATTCATAGATTGAAATAGTT       | 339 |
| P50-2        | AGCATTATGCAATGACAAAGATAACAATTCATAGATTGAAATAGTT       | 305 |
| Consensus    | agcatttatgcaatgacaaagataacaattcatagattgaaatagtt      |     |
| ENA CXJ03505 | TAAATGTTTCTAACAACTAACTAAATGGGAATAACATTGTTCAAATGAC    | 450 |
| K173-2       | TAAATGTTTCTAACAACTAACTAAATGGGAATAACATTGTTCAAATGAC    | 352 |
| A30-2        | TAAATGTTTCTAACAACTAACTAAATGGGAATAACATTGTTCAAATGAC    | 390 |
| A50-2        | TAAATGTTTCTAACAACTAACTAAATGGGAATAACATTGTTCAAATGAC    | 356 |
| P30-2        | TAAATGTTTCTAACAACTAACTAAATGGGAATAACATTGTTCAAATGAC    | 389 |
| P50-2        | TAAATGTTTCTAACAACTAACTAAATGGGAATAACATTGTTCAAATGAC    | 355 |
| Consensus    | taaatgtttctaacaaactaaactaaatgggaataaacattgttcaaatgac |     |
| ENA CXJ03505 | GGTGGTAACAAAATATGCATGTAAAAATCGGAAACAATAATTAATGG      | 500 |
| K173-2       | GGTGGTAACAAAATATGCATGTAAAAATCGGAAACAATAATTAATGG      | 402 |
| A30-2        | GGTGGTAACAAAATATGCATGTAAAAATCGGAAACAATAATTAATGG      | 440 |
| A50-2        | GGTGGTAACAAAATATGCATGTAAAAATCGGAAACAATAATTAATGG      | 406 |
| P30-2        | GGTGGTAACAAAATATGCATGTAAAAATCGGAAACAATAATTAATGG      | 439 |
| P50-2        | GGTGGTAACAAAATATGCATGTAAAAATCGGAAACAATAATTAATGG      | 405 |
| Consensus    | ggtggtaacaaaatatgcatgtaaaaatcggaaacaataatattaatgg    |     |
| ENA CXJ03505 | TAGTACTGGTGACCACTAATAAAAAAGAAATATTATGGATTCAAGGAG     | 550 |
| K173-2       | TAGTACTGGTGACCACTAATAAAAAAGAAATATTATGGATTCAAGGAG     | 452 |
| A30-2        | TAGTACTGGTGACCACTAATAAAAAAGAAATATTATGGATTCAAGGAG     | 490 |
| A50-2        | TAGTACTGGTGACCACTAATAAAAAAGAAATATTATGGATTCAAGGAG     | 456 |
| P30-2        | TAGTACTGGTGACCACTAATAAAAAAGAAATATTATGGATTCAAGGAG     | 489 |
| P50-2        | TAGTACTGGTGACCACTAATAAAAAAGAAATATTATGGATTCAAGGAG     | 455 |
| Consensus    | tagtactggtgacccaactaa aaaaaaga atatttatggattcaggag   |     |
| ENA CXJ03505 | CAAGTTCATAAATATGAATGAGGATAATAGCACAATGCATAATATTAGA    | 600 |
| K173-2       | CAAGTTCATAAATATGAATGAGGATAATAGCACAATGCATAATATTAGA    | 502 |
| A30-2        | CAAGTTCATAAATATGAATGAGGATAATAGCACAATGCATAATATTAGA    | 540 |
| A50-2        | CAAGTTCATAAATATGAATGAGGATAATAGCACAATGCATAATATTAGA    | 506 |
| P30-2        | CAAGTTCATAAATATGAATGAGGATAATAGCACAATGCATAATATTAGA    | 539 |
| P50-2        | CAAGTTCATAAATATGAATGAGGATAATAGCACAATGCATAATATTAGA    | 505 |
| Consensus    | caagttc ataatatgaatgaggataatagcacaatgcataatattaga    |     |

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| ENA CXJ03505 | ATATATAAAATACCAATAATATTAATGATACATATGAAAAAAATAAT      | 650  |
| K173-2       | ATATATAAAATACCAATAATATTAATGATACATATGAAAAAAATAAT      | 552  |
| A30-2        | ATATATAAAATACCAATAATATTAATGATACATATGAAAAAAATAAT      | 590  |
| A50-2        | ATATATAAAATACCAATAATATTAATGATACATATGAAAAAAATAAT      | 556  |
| F30-2        | ATATATAAAATACCAATAATATTAATGATACATATGAAAAAAATAAT      | 589  |
| F50-2        | ATATATAAAATACCAATAATATTAATGATACATATGAAAAAAATAAT      | 555  |
| Consensus    | atataaaaaaac aataatattaatgatacatatgaaaaaaaataat      |      |
| ENA CXJ03505 | TGAAACTGAATTGAGCGATTCTAGTGATTTTGAATAATGGTTGGAGATC    | 700  |
| K173-2       | TGAAACTGAATTGAGCGATTCTAGTGATTTTGAATAATGGTTGGAGATC    | 602  |
| A30-2        | TGAAACTGAATTGAGCGATTCTAGTGATTTTGAATAATGGTTGGAGATC    | 640  |
| A50-2        | TGAAACTGAATTGAGCGATTCTAGTGATTTTGAATAATGGTTGGAGATC    | 606  |
| F30-2        | TGAAACTGAATTGAGCGATTCTAGTGATTTTGAATAATGGTTGGAGATC    | 639  |
| F50-2        | TGAAACTGAATTGAGCGATTCTAGTGATTTTGAATAATGGTTGGAGATC    | 605  |
| Consensus    | tgaaactgaattgagcgattctagtgatTTTGAATAATGGTTGGAGATC    |      |
| ENA CXJ03505 | TTAGAATTACATTTTAAATGGTTAAAAAAACACAATGAATTTTATA       | 750  |
| K173-2       | TTAGAATTACATTTTAAATGGTTAAAAAAACACAATGAATTTTATA       | 652  |
| A30-2        | TTAGAATTACATTTTAAATGGTTAAAAAAACACAATGAATTTTATA       | 690  |
| A50-2        | TTAGAATTACATTTTAAATGGTTAAAAAAACACAATGAATTTTATA       | 656  |
| F30-2        | TTAGAATTACATTTTAAATGGTTAAAAAAACACAATGAATTTTATA       | 689  |
| F50-2        | TTAGAATTACATTTTAAATGGTTAAAAAAACACAATGAATTTTATA       | 655  |
| Consensus    | ttagaattacatttttaattggTTAAAAAAACACAATGAATTTTATA      |      |
| ENA CXJ03505 | AGAGAAAAAGATAAATTTTAAAGATAAAAAAGAACTGAAATGGAAAG      | 800  |
| K173-2       | AGAGAAAAAGATAAATTTTAAAGATAAAAAAGAACTGAAATGGAAAG      | 702  |
| A30-2        | AGAGAAAAAGATAAATTTTAAAGATAAAAAAGAACTGAAATGGAAAG      | 740  |
| A50-2        | AGAGAAAAAGATAAATTTTAAAGATAAAAAAGAACTGAAATGGAAAG      | 706  |
| F30-2        | AGAGAAAAAGATAAATTTTAAAGATAAAAAAGAACTGAAATGGAAAG      | 739  |
| F50-2        | AGAGAAAAAGATAAATTTTAAAGATAAAAAAGAACTGAAATGGAAAG      | 705  |
| Consensus    | agagaaaaagataaattttAAAGATAAAAAAGAACTGAAATGGAAAG      |      |
| ENA CXJ03505 | AATAAGATTATATAAAGAAATAGAAAATAGAAAAGCTATAGAAGAACAA    | 850  |
| K173-2       | AATAAGATTATATAAAGAAATAGAAAATAGAAAAGCTATAGAAGAACAA    | 752  |
| A30-2        | AATAAGATTATATAAAGAAATAGAAAATAGAAAAGCTATAGAAGAACAA    | 790  |
| A50-2        | AATAAGATTATATAAAGAAATAGAAAATAGAAAAGCTATAGAAGAACAA    | 756  |
| F30-2        | AATAAGATTATATAAAGAAATAGAAAATAGAAAAGCTATAGAAGAACAA    | 789  |
| F50-2        | AATAAGATTATATAAAGAAATAGAAAATAGAAAAGCTATAGAAGAACAA    | 755  |
| Consensus    | aataagattatataaagaatagaaaatagaaaagctatagaagaacaa     |      |
| ENA CXJ03505 | AATTACAAGATGAAAGAAAAAATTAGATATTGATATATCTAATGGTTAT    | 900  |
| K173-2       | AATTACAAGATGAAAGAAAAAATTAGATATTGATATATCTAATGGTTAT    | 802  |
| A30-2        | AATTACAAGATGAAAGAAAAAATTAGATATTGATATATCTAATGGTTAT    | 840  |
| A50-2        | AATTACAAGATGAAAGAAAAAATTAGATATTGATATATCTAATGGTTAT    | 806  |
| F30-2        | AATTACAAGATGAAAGAAAAAATTAGATATTGATATATCTAATGGTTAT    | 839  |
| F50-2        | AATTACAAGATGAAAGAAAAAATTAGATATTGATATATCTAATGGTTAT    | 805  |
| Consensus    | aattacaagatgaaagaaaaaattagatattgatatatCTAATGGTTAT    |      |
| ENA CXJ03505 | AAACAAATTTAAAAAGAAAAAAGAAACATCGAAAACGATTTGATGATGA    | 950  |
| K173-2       | AAACAAATTTAAAAAGAAAAAAGAAACATCGAAAACGATTTGATGATGA    | 852  |
| A30-2        | AAACAAATTTAAAAAGAAAAAAGAAACATCGAAAACGATTTGATGATGA    | 890  |
| A50-2        | AAACAAATTTAAAAAGAAAAAAGAAACATCGAAAACGATTTGATGATGA    | 856  |
| F30-2        | AAACAAATTTAAAAAGAAAAAAGAAACATCGAAAACGATTTGATGATGA    | 889  |
| F50-2        | AAACAAATTTAAAAAGAAAAAAGAAACATCGAAAACGATTTGATGATGA    | 855  |
| Consensus    | aaacaaatt taaaaagaaaaaagaaacatCGAAAACGATTTGATGATGA   |      |
| ENA CXJ03505 | AAGATTAAAGATTTTACAAGAAATGATAAAATAAAATTAGTACTTTATT    | 1000 |
| K173-2       | AAGATTAAAGATTTTACAAGAAATGATAAAATAAAATTAGTACTTTATT    | 902  |
| A30-2        | AAGATTAAAGATTTTACAAGAAATGATAAAATAAAATTAGTACTTTATT    | 940  |
| A50-2        | AAGATTAAAGATTTTACAAGAAATGATAAAATAAAATTAGTACTTTATT    | 906  |
| F30-2        | AAGATTAAAGATTTTACAAGAAATGATAAAATAAAATTAGTACTTTATT    | 939  |
| F50-2        | AAGATTAAAGATTTTACAAGAAATGATAAAATAAAATTAGTACTTTATT    | 905  |
| Consensus    | aagattaagatttttacaagaaatgataaaatAAAATTAGTACTTTATT    |      |
| ENA CXJ03505 | TAGAAAAAGAAAAATATTTTCAAGAATATAAAAATTTGAAAATGATAAA    | 1050 |
| K173-2       | TAGAAAAAGAAAAATATTTTCAAGAATATAAAAATTTGAAAATGATAAA    | 952  |
| A30-2        | TAGAAAAAGAAAAATATTTTCAAGAATATAAAAATTTGAAAATGATAAA    | 990  |
| A50-2        | TAGAAAAAGAAAAATATTTTCAAGAATATAAAAATTTGAAAATGATAAA    | 956  |
| F30-2        | TAGAAAAAGAAAAATATTTTCAAGAATATAAAAATTTGAAAATGATAAA    | 989  |
| F50-2        | TAGAAAAAGAAAAATATTTTCAAGAATATAAAAATTTGAAAATGATAAA    | 955  |
| Consensus    | tagaaaaagaaaaatattttcaagaatataaaaattttgaaaatgataaa   |      |
| ENA CXJ03505 | AAAAAAATGTAGATGCTAATATAGCAACTGAACTATGATAGATATAAA     | 1100 |
| K173-2       | AAAAAAATGTAGATGCTAATATAGCAACTGAACTATGATAGATATAAA     | 1002 |
| A30-2        | AAAAAAATGTAGATGCTAATATAGCAACTGAACTATGATAGATATAAA     | 1040 |
| A50-2        | AAAAAAATGTAGATGCTAATATAGCAACTGAACTATGATAGATATAAA     | 1006 |
| F30-2        | AAAAAAATGTAGATGCTAATATAGCAACTGAACTATGATAGATATAAA     | 1039 |
| F50-2        | AAAAAAATGTAGATGCTAATATAGCAACTGAACTATGATAGATATAAA     | 1005 |
| Consensus    | aaaaaaat gta atgctaataatagcaactgaaactatgatatagataaaa |      |

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| ENA CXJ03505 | TGTAGGAGGAGCTCTTTTTGAAACTTCTAGACATACATTAACTCAACAAA   | 1150 |
| K173-2       | TGTAGGAGGAGCTCTTTTTGAAACTTCTAGACATACATTAACTCAACAAA   | 1052 |
| A30-2        | TGTAGGAGGAGCTCTTTTTGAAACTTCAAGACATACATTAACTCAACAAA   | 1090 |
| A50-2        | TGTAGGAGGAGCTCTTTTTGAAACTTCAAGACATACATTAACTCAACAAA   | 1056 |
| P30-2        | TGTAGGAGGAGCTCTTTTTGAAACTTCAAGACATACATTAACTCAACAAA   | 1089 |
| P50-2        | TGTAGGAGGAGCTCTTTTTGAAACTTCAAGACATACATTAACTCAACAAA   | 1055 |
| Consensus    | tgtaggagg gctctttttgaaacttc agacatacatctaaactcaacaaa |      |
| ENA CXJ03505 | AAGATTCATTTATTGAAAACTATTGAGTGAAGATATCATATAACAAGG     | 1200 |
| K173-2       | AAGATTCATTTATTGAAAACTATTGAGTGAAGATATCATATAACAAGG     | 1102 |
| A30-2        | AAGATTCATTTATTGAAAACTATTGAGTGAAGATATCATATAACAAGG     | 1140 |
| A50-2        | AAGATTCATTTATTGAAAACTATTGAGTGAAGATATCATATAACAAGG     | 1106 |
| P30-2        | AAGATTCATTTATTGAAAACTATTGAGTGAAGATATCATATAACAAGG     | 1139 |
| P50-2        | AAGATTCATTTATTGAAAACTATTGAGTGAAGATATCATATAACAAGG     | 1105 |
| Consensus    | aagattcattttattgaaaaactattgagtggaagatcatataacaagg    |      |
| ENA CXJ03505 | GATAAACAAAGGTAGAATATTTTAGATCGTGATAGTGAATTTTAGAAT     | 1250 |
| K173-2       | GATAAACAAAGGTAGAATATTTTAGATCGTGATAGTGAATTTTAGAAT     | 1152 |
| A30-2        | GATAAACAAAGGTAGAATATTTTAGATCGTGATAGTGAATTTTAGAAT     | 1190 |
| A50-2        | GATAAACAAAGGTAGAATATTTTAGATCGTGATAGTGAATTTTAGAAT     | 1156 |
| P30-2        | GATAAACAAAGGTAGAATATTTTAGATCGTGATAGTGAATTTTAGAAT     | 1189 |
| P50-2        | GATAAACAAAGGTAGAATATTTTAGATCGTGATAGTGAATTTTAGAAT     | 1155 |
| Consensus    | gataaacaaggtagaatatttttagatcgtgatagtgaaatttttagaat   |      |
| ENA CXJ03505 | TATATTAACCTTTTTAAGAAATCCACTAACCATACCTATAACCTAAAGATT  | 1300 |
| K173-2       | TATATTAACCTTTTTAAGAAATCCACTAACCATACCTATAACCTAAAGATT  | 1202 |
| A30-2        | TATATTAACCTTTTTAAGAAATCCGCTAACCATACCTATAACCTAAAGATT  | 1240 |
| A50-2        | TATATTAACCTTTTTAAGAAATCCGCTAACCATACCTATAACCTAAAGATT  | 1206 |
| P30-2        | TATATTAACCTTTTTAAGAAATCCGCTAACCATACCTATAACCTAAAGATT  | 1239 |
| P50-2        | TATATTAACCTTTTTAAGAAATCCGCTAACCATACCTATAACCTAAAGATT  | 1205 |
| Consensus    | tatattaaactttttaagaaatcc ctaaccatacctatacctaaagatt   |      |
| ENA CXJ03505 | TAGGAGAAAGTGAAGCATTATTAAGAAGCAGAAATTTATGGTATTA       | 1350 |
| K173-2       | TAGGAGAAAGTGAAGCATTATTAAGAAGCAGAAATTTATGGTATTA       | 1252 |
| A30-2        | TAGGAGAAAGTGAAGCATTATTAAGAAGCAGAAATTTATGGTATTA       | 1290 |
| A50-2        | TAGGAGAAAGTGAAGCATTATTAAGAAGCAGAAATTTATGGTATTA       | 1256 |
| P30-2        | TAGGAGAAAGTGAAGCATTATTAAGAAGCAGAAATTTATGGTATTA       | 1289 |
| P50-2        | TAGGAGAAAGTGAAGCATTATTAAGAAGCAGAAATTTATGGTATTA       | 1255 |
| Consensus    | taggagaaagtgaagcattttaagaagcagaatttatggtat a         |      |
| ENA CXJ03505 | TTTTTACCATTCCCCTAGTTTTTCTATTGGAGGTTTTGATGGAGTTGA     | 1400 |
| K173-2       | TTTTTACCATTCCCCTAGTTTTTCTATTGGAGGTTTTGATGGAGTTGA     | 1302 |
| A30-2        | TTTTTACCATTCCCCTAGTTTTTCTATTGGAGGTTTTGATGGAGTTGA     | 1340 |
| A50-2        | TTTTTACCATTCCCCTAGTTTTTCTATTGGAGGTTTTGATGGAGTTGA     | 1306 |
| P30-2        | TTTTTACCATTCCCCTAGTTTTTCTATTGGAGGTTTTGATGGAGTTGA     | 1339 |
| P50-2        | TTTTTACCATTCCCCTAGTTTTTCTATTGGAGGTTTTGATGGAGTTGA     | 1305 |
| Consensus    | tttttaccattcccc tagtttttctattggaggttttgatggagttga    |      |
| ENA CXJ03505 | ATATTTAAATCTATGGAACCTTTTAGATATAAGCCAACAATGCTGGCGTA   | 1450 |
| K173-2       | ATATTTAAATCTATGGAACCTTTTAGATATAAGCCAACAATGCTGGCGTA   | 1352 |
| A30-2        | ATATTTAAATCTATGGAACCTTTTAGATATAAGCCAACAATGCTGGCGTA   | 1390 |
| A50-2        | ATATTTAAATCTATGGAACCTTTTAGATATAAGCCAACAATGCTGGCGTA   | 1356 |
| P30-2        | ATATTTAAATCTATGGAACCTTTTAGATATAAGCCAACAATGCTGGCGTA   | 1389 |
| P50-2        | ATATTTAAATCTATGGAACCTTTTAGATATAAGCCAACAATGCTGGCGTA   | 1355 |
| Consensus    | atatttaaattctatggaacttttagatataagccaacaatgctggcgta   |      |
| ENA CXJ03505 | TGTGTACCCCATGTCACACTAAAAAGCATATTTGGTAGTGCAGTGTTA     | 1500 |
| K173-2       | TGTGTACCCCATGTCACACTAAAAAGCATATTTGGTAGTGCAGTGTTA     | 1402 |
| A30-2        | TGTGTACCCCATGTCACACTAAAAAGCATATTTGGTAGTGCAGTATTA     | 1440 |
| A50-2        | TGTGTACCCCATGTCACACTAAAAAGCATATTTGGTAGTGCAGTATTA     | 1406 |
| P30-2        | TGTGTACCCCATGTCACACTAAAAAGCATATTTGGTAGTGCAGTATTA     | 1439 |
| P50-2        | TGTGTACCCCATGTCACACTAAAAAGCATATTTGGTAGTGCAGTATTA     | 1405 |
| Consensus    | tgtgtaccccatgtcaactaaaaagcatattttggtagtgagtgagttta   |      |
| ENA CXJ03505 | AATAACTTTTTATATGATTCGGTGGTAATAATTACGATTATAAAGCTTT    | 1550 |
| K173-2       | AATAACTTTTTATATGATTCGGTGGTAATAATTACGATTATAAAGCTTT    | 1452 |
| A30-2        | AATAACTTTTTATATGATTCGGTGGTAATAATTACGATTATAAAGCTTT    | 1490 |
| A50-2        | AATAACTTTTTATATGATTCGGTGGTAATAATTACGATTATAAAGCTTT    | 1456 |
| P30-2        | AATAACTTTTTATATGATTCGGTGGTAATAATTACGATTATAAAGCTTT    | 1489 |
| P50-2        | AATAACTTTTTATATGATTCGGTGGTAATAATTACGATTATAAAGCTTT    | 1455 |
| Consensus    | aataactttttatgatattcggtaggtaataattacgattataaagcttt   |      |
| ENA CXJ03505 | ATTTGAAACAGAAGTATATGATAGATTAAGAGATACATGGTTTTTATCTA   | 1600 |
| K173-2       | ATTTGAAACAGAAGTATATGATAGATTAAGAGATACATGGTTTTTATCTA   | 1502 |
| A30-2        | ATTTGAAACAGAAGTATATGATAGATTAAGAGATACATGGTTTTTATCTA   | 1540 |
| A50-2        | ATTTGAAACAGAAGTATATGATAGATTAAGAGATACATGGTTTTTATCTA   | 1506 |
| P30-2        | ATTTGAAACAGAAGTATATGATAGATTAAGAGATACATGGTTTTTATCTA   | 1539 |
| P50-2        | ATTTGAAACAGAAGTATATGATAGATTAAGAGATACATGGTTTTTATCTA   | 1505 |
| Consensus    | atttgaacagaagtatatgatagattaagagatacatggtttttatctat   |      |

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| ENA CXJ03505 | GCAATTTAAATATCCRAGAAGAAATAATTGGGTATCACATCAAAATGGG    | 1650 |
| K173-2       | GCAATTTAAATATCCRAGAAGAAATAATTGGGTATCACATCAAAATGGG    | 1552 |
| A30-2        | GCAATTTAAATATCCRAGAAGAAATAATTGGGTATCACATTAATGGGA     | 1590 |
| A50-2        | GCAATTTAAATATCCRAGAAGAAATAATTGGGTATCACATTAATGGGA     | 1556 |
| P30-2        | GCAATTTAAATATCCRAGAAGAAATAATTGGGTATCACATTAATGGGA     | 1589 |
| P50-2        | GCAATTTAAATATCCRAGAAGAAATAATTGGGTATCACATTAATGGGA     | 1555 |
| Consensus    | gcaatttaaatattccaagaagaataaattggtgatcacat aaatgg     |      |
| ENA CXJ03505 | CGAATATACTGTATTGGTGGTTATGACGGATCATCTATTATACCTAATGT   | 1700 |
| K173-2       | CGAATATACTGTATTGGTGGTTATGACGGATCATCTATTATACCTAATGT   | 1602 |
| A30-2        | CGAATATACTGTATTGGTGGTTATGATGGATCATCTATTATACCTAATGT   | 1640 |
| A50-2        | CGAATATACTGTATTGGTGGTTATGATGGATCATCTATTATACCTAATGT   | 1606 |
| P30-2        | CGAATATACTGTATTGGTGGTTATGATGGATCATCTATTATACCTAATGT   | 1639 |
| P50-2        | CGAATATACTGTATTGGTGGTTATGATGGATCATCTATTATACCTAATGT   | 1605 |
| Consensus    | cgaatatactgtattggtggttatga ggatcatctattatacctaattgt  |      |
| ENA CXJ03505 | CGAGGCATATGATCATAGAATGAAAGCTTGGATAGAAGTAGCACCGTTAA   | 1750 |
| K173-2       | CGAGGCATATGATCATAGAATGAAAGCTTGGATAGAAGTAGCACCGTTAA   | 1652 |
| A30-2        | TGAGGCATATGATCATAGAATGAAAGCTTGGATAGAAGTAGCACCGTTAA   | 1690 |
| A50-2        | TGAGGCATATGATCATAGAATGAAAGCTTGGATAGAAGTAGCACCGTTAA   | 1656 |
| P30-2        | TGAGGCATATGATCATAGAATGAAAGCTTGGATAGAAGTAGCACCGTTAA   | 1689 |
| P50-2        | TGAGGCATATGATCATAGAATGAAAGCTTGGATAGAAGTAGCACCGTTAA   | 1655 |
| Consensus    | gagggcatatgatcatagaatgaaagcttggatagaagtagcacccggttaa |      |
| ENA CXJ03505 | ATACCCGAGATCTCCGCTATGTGTAGCTTTTGATAATAAAATTTAT       | 1800 |
| K173-2       | ATACCCGAGATCTCCGCTATGTGTAGCTTTTGATAATAAAATTTAT       | 1702 |
| A30-2        | ATACTCCGAGATCTTCAGCTATGTGTAGCTTTTGATAATAAAATTTAT     | 1740 |
| A50-2        | ATACTCCGAGATCTTCAGCTATGTGTAGCTTTTGATAATAAAATTTAT     | 1706 |
| P30-2        | ATACTCCGAGATCTTCAGCTATGTGTAGCTTTTGATAATAAAATTTAT     | 1739 |
| P50-2        | ATACTCCGAGATCTTCAGCTATGTGTAGCTTTTGATAATAAAATTTAT     | 1705 |
| Consensus    | atac ccgagatcttc gctatggtgtagcttttgataataaaatttat    |      |
| ENA CXJ03505 | GTTGTAGGCGGTGCTAATGGAGAAAGATTAAATTCATTGAAGTATATGA    | 1850 |
| K173-2       | GTTGTAGGCGGTGCTAATGGAGAAAGATTAAATTCATTGAAGTATATGA    | 1752 |
| A30-2        | GTTGTAGGCGGTGCTAATGGAGAAAGATTAAATTCATTGAAGTATATGA    | 1790 |
| A50-2        | GTTGTAGGCGGTGCTAATGGAGAAAGATTAAATTCATTGAAGTATATGA    | 1756 |
| P30-2        | GTTGTAGGCGGTGCTAATGGAGAAAGATTAAATTCATTGAAGTATATGA    | 1789 |
| P50-2        | GTTGTAGGCGGTGCTAATGGAGAAAGATTAAATTCATTGAAGTATATGA    | 1755 |
| Consensus    | gttgtagg ggtgtaatggagaaagattaaatctattgaagtatatga     |      |
| ENA CXJ03505 | TGAAAAAATGAATAAATGGGAAAAATTTCCCATATGCATTATTAGAAGCTA  | 1900 |
| K173-2       | TGAAAAAATGAATAAATGGGAAAAATTTCCCATATGCATTATTAGAAGCTA  | 1802 |
| A30-2        | TGAAAAAATGAATAAATGGGAAAAATTTCCCATATGCATTATTAGAAGCTA  | 1840 |
| A50-2        | TGAAAAAATGAATAAATGGGAAAAATTTCCCATATGCATTATTAGAAGCTA  | 1806 |
| P30-2        | TGAAAAAATGAATAAATGGGAAAAATTTCCCATATGCATTATTAGAAGCTA  | 1839 |
| P50-2        | TGAAAAAATGAATAAATGGGAAAAATTTCCCATATGCATTATTAGAAGCTA  | 1805 |
| Consensus    | tgaaaaaatgaataaattgggaaaaat tcccatatgcattattagaagcta |      |
| ENA CXJ03505 | GAAGTTCAGGGGCAGCTTTTAATTATCTAAATCAAATTTATGTTGTGGT    | 1950 |
| K173-2       | GAAGTTCAGGGGCAGCTTTTAATTATCTAAATCAAATTTATGTTGTGGT    | 1852 |
| A30-2        | GAAGTTCAGGGGCAGCTTTTAATTATCTAAATCAAATTTATGTTGTGGT    | 1890 |
| A50-2        | GAAGTTCAGGGGCAGCTTTTAATTATCTAAATCAAATTTATGTTGTGGT    | 1856 |
| P30-2        | GAAGTTCAGGGGCAGCTTTTAATTATCTAAATCAAATTTATGTTGTGGT    | 1889 |
| P50-2        | GAAGTTCAGGGGCAGCTTTTAATTATCTAAATCAAATTTATGTTGTGGT    | 1855 |
| Consensus    | gaagttcaggggcagcttttaattatctaaatcaaatttatgttgtggt    |      |
| ENA CXJ03505 | GGTATTGATAATGAACATAATATTTTAGAGTCCGTTGAACAATATCAGCC   | 2000 |
| K173-2       | GGTATTGATAATGAACATAATATTTTAGAGTCCGTTGAACAATATCAGCC   | 1902 |
| A30-2        | GGTATTGATAATGAACATAATATTTTAGAGTCA GTTGAACAATATCAACC  | 1940 |
| A50-2        | GGTATTGATAATGAACATAATATTTTAGAGTCA GTTGAACAATATCAACC  | 1906 |
| P30-2        | GGTATTGATAATGAACATAATATTTTAGAGTCA GTTGAACAATATCAACC  | 1939 |
| P50-2        | GGTATTGATAATGAACATAATATTTTAGAGTCA GTTGAACAATATCAACC  | 1905 |
| Consensus    | ggtattgataatgaacataatatttttagagtc gttgaacaatatacacc  |      |
| ENA CXJ03505 | ATTTAATAAAGATGGCAATTCCTAAATGGAATTCCTGAAAAAAAATGA     | 2050 |
| K173-2       | ATTTAATAAAGATGGCAATTCCTAAATGGAATTCCTGAAAAAAAATGA     | 1952 |
| A30-2        | ATTTAATAAAGATGGCAATTCCTAAATGGCAATTCCTGAAAAAAAATGA    | 1990 |
| A50-2        | ATTTAATAAAGATGGCAATTCCTAAATGGCAATTCCTGAAAAAAAATGA    | 1956 |
| P30-2        | ATTTAATAAAGATGGCAATTCCTAAATGGCAATTCCTGAAAAAAAATGA    | 1989 |
| P50-2        | ATTTAATAAAGATGGCAATTCCTAAATGGCAATTCCTGAAAAAAAATGA    | 1955 |
| Consensus    | atttaataaagatggcaattcctaaatggaatcctgaaaaaaaatga      |      |
| ENA CXJ03505 | ATTTTGGTGCAACTACTTTATCCGATTCCTTATAAATTACAGGAGGTGAA   | 2100 |
| K173-2       | ATTTTGGTGCAACTACTTTATCCGATTCCTTATAAATTACAGGAGGTGAA   | 2002 |
| A30-2        | ATTTTGGTGCAACCACCTTTATCCGATTCCTTATAAATTACA.....      | 2031 |
| A50-2        | ATTTTGGTGCAACCACCTTTATCCGATTCCTTATAAATTACAGGAGGTGAA  | 2006 |
| P30-2        | ATTTTGGTGCAACCACCTTTATCCGATTCCTTATAAATTACAG.....     | 2031 |
| P50-2        | ATTTTGGTGCAACCACCTTTATCCGATTCCTTATAAATTACAGGAGGTGAA  | 2005 |
| Consensus    | attttgggtgcaac actttatccgattccttataaattacag          |      |

Supplementary Figure 1. Comparison of the different resistant strains of *PbK13*



Supplementary Figure 2. Missense mutation sites and genotyping results