

Table S1. Bacteria strains used in the Isolation and the testing of host range of *Pectobacterium* phages CB1, CB3 and CB4.

| Bacteria | strain | Isolation source |
|---|--------------------------|---|
| <i>Pectobacterium atrosepticum</i> | DSMZ 18077 (type strain) | Potato (<i>Solanum tuberosum</i>) |
| | DSMZ 30184 | Potato (<i>Solanum tuberosum</i> cv. Bodenkraft) |
| | DSMZ 30185 | Potato (<i>Solanum tuberosum</i>) |
| | DSMZ 30186 | Potato (<i>Solanum tuberosum</i> cv. Maritta) |
| <i>Pectobacterium carotovorum</i> subsp. <i>carotovorum</i> | DSMZ 30168 (type strain) | Potato (<i>Solanum tuberosum</i>) |
| | DSMZ 30169 | <i>Brassica oleracea</i> var. <i>capitata</i> |
| | DSMZ 30170 | Potato (<i>Solanum tuberosum</i> "Maritta") |
| <i>Dickeya chrysanthemi</i> bv <i>chrysanthemi</i> | LMG 2804 (type strain) | <i>Chrysanthemum</i> |
| <i>Dickeya dianthicola</i> | PD 482 | <i>Solanum tuberosum</i> cv. Ostara |
| | PD 2174 | - |
| | GBBC 1538 | - |
| <i>Dickeya solani</i> | sp. PRI 2222 | - |
| | LMG 25865 | <i>Solanum tuberosum</i> cv. Première |
| | GBBC 1502 | - |
| | GBBC 1586 | - |

Table S2. Genbank details of N4-like phages used in phylograms and Gegenees analysis.

| Phage | Genbank accession number | DNA polymerase | virion RNA polymerase |
|--|--------------------------|----------------|-----------------------|
| <i>Achromobacter</i> phage JWAAlpha | KF787095.1 | KF787095.1 | YP_009004769.1 |
| <i>Achromobacter</i> phage JWDelta | KF787094.1 | KF787094.1 | AHC56581.1 |
| <i>Achromobacter</i> phage phiAxp-3 | NC_028908.1 | NC_028908.1 | YP_009208706.1 |
| <i>Acinetobacter</i> phage Presley | KF669658.1 | KF669658.1 | YP_009007647.1 |
| <i>Dinoroseobacter</i> phage DFL12phi1 | KJ621082.2 | KJ621082.2 | YP_009043702.1 |
| <i>Dinoroseobacter</i> phage vBDshPR2C | KJ803031.1 | KJ803031.1 | AID16877.1 |
| <i>Enterobacter</i> phage EcP1 | NC_019485.1 | NC_019485.1 | YP_007003173.1 |
| <i>Erwinia</i> phage Ea9-2 | NC_023579.1 | YP_009007430 | YP_009007447.1 |
| <i>Erwinia</i> phage vB_EamP_Gutmeister | KX098391.1 | ANJ65360.1 | ANJ65375.1 |
| <i>Erwinia</i> phage vB_EamP_Rexella | KX098390.1 | ANJ65282.1 | ANJ65299.1 |
| <i>Erwinia</i> phage vB_EamP-S6 | NC_019514.1 | NC_019514.1 | YP_007005815.1 |
| <i>Escherichia</i> phage ECBP1 | JX415535.1 | YP_006908814.1 | YP_006908827.1 |
| <i>Escherichia</i> phage N4 | NC_008720.1 | YP_950517.1 | YP_950528.1 |
| <i>Escherichia</i> phage Pollock | NC_027381.1 | NC_027381.1 | YP_009152160.1 |
| <i>Escherichia</i> phage vB_EcoP_G7C | HQ259105.1 | YP_004782168.1 | YP_004782180.1 |
| <i>Escherichia</i> phage vB_EcoP_PhaPEC7 | KF562340.1 | YP_009056171.1 | YP_009056186.1 |
| <i>Pseudoalteromonas</i> phage pYD6-A | JF974296.1 | JF974296.1 | YP_007674286.1 |
| <i>Pseudomonas</i> phage inbricus | MG018928.1 | ATW58103.1 | ATW58114.1 |
| <i>Pseudomonas</i> phage KPP21 | LC064302.1 | LC064302.1 | YP_009218950.1 |
| <i>Pseudomonas</i> phage LIT1 | FN422399.1 | YP_003358435.1 | YP_003358468.1 |
| <i>Pseudomonas</i> phage LUZ7 | FN422398.1 | FN422398.1 | YP_003358355.1 |
| <i>Pseudomonas</i> phage RWG | KM411958.1 | AIZ94788.1 | AIZ94822.1 |
| <i>Pseudomonas</i> phage vB_Pae575P-3 | KX171209.1 | ANT44317.1 | ANT44349.1 |
| <i>Pseudomonas</i> phage ZC03 | KU356690.1 | KU356690.1 | AMD43402.1 |
| <i>Pseudomonas</i> phage ZC08 | KU356691.1 | KU356691.1 | AMD43541.1 |
| Roseophage DSS3P2 | FJ591093.1 | FJ591093.1 | YP_002899070.1 |
| Roseophage EE36P1 | FJ591094.1 | FJ591094.1 | YP_002898988.1 |
| <i>Salmonella</i> phage FSL SP-058 | NC_021772.1 | NC_021772.1 | YP_008239463.1 |
| <i>Salmonella</i> phage FSL SP-076 | KC139520.1 | KC139520.1 | YP_008240191.1 |
| <i>Sulfitobacter</i> phage phiCB2047-B | NC_020862 | NC_020862 | YP_007675808.1 |
| <i>Vibrio</i> phage JA-1 | KC438282.1 | KC438282.1 | YP_008126816.1 |
| <i>Vibrio</i> phage JSF3 | KY065148.1 | APD18062.1 | APD18049.1 |
| <i>Vibrio</i> phage phi 1 | KP280062.1 | KP280062.1 | YP_009198592.1 |
| <i>Vibrio</i> phage pVa5 | KX889068.1 | KX889068.1 | APC46019.1 |
| <i>Vibrio</i> phage pVco-5 | KY612839.1 | ARM71084.1 | ARM71100.1 |
| <i>Vibrio</i> phage VBP32 | HQ634196.1 | HQ634196.1 | YP_007676574.1 |
| <i>Vibrio</i> phage VBP47 | HQ634194.1 | HQ634194.1 | YP_007674140.1 |
| <i>Vibrio</i> phage VCO139 | KC438283.1 | KC438283.1 | AGI61882.1 |