**Supporting Table S1**. Strains, plasmids and primers.

*L. pneumophila* strains

| Name | Genotype | Reference |
|---|---|---|
| Lp01 | *L.pneumophila* serogroup 1, strain Lp01 *rpsL* | *[1]* |
| CR58 | Lp01 *rpsL* Δ*dotA* | *[2]* |
| CR503 | Δ*icmS* Δ*icmW rpsL* | *[3]* |
| SN178 | Lp01 *rpsL* Δ*ppeA-ppeB* Δ*pieE* Δ*pieA-pieD* Δ*lpg1975-pieG* | *This study* |
| SN179 | Lp01 *rpsL* Δ*ppeA-ppeB* Δ*pieE* Δ*pieA-pieD* Δ*lpg1975-pieG ppgA::kan*$^r$ | *This study* |
| SN122 | Lp01 *rpsL pieA::kan*$^r$ | *This study* |

Plasmids

| Name | Important properties | Marker | Reference |
|---|---|---|---|
| pCya | pMMB207 encoding M45-Cya | Cm | [4] |
| pDsRed-Express | Prokaryotic expression vector encoding DsRed-Express | Amp | Clontech |
| pEGFP-C1 | Eukaryotic expression vector encoding EGFP | Kan | Clontech |
| pEGFP-C2 | Eukaryotic expression vector encoding EGFP | Kan | Clontech |
| pEGFP-C3 | Eukaryotic expression vector encoding EGFP | Kan | Clontech |
| pEMC22 | pMMB207 encoding DsRed-Express | Cm | This study |
| pET15b | 6His-tag expression vector | Amp | Novagen |
| pMMB207 | cloning vector derived from RSF1010 | Cm | [5] |
| pSN20 | pCya encoding the Cya-PieC fusion protein | Cm | This study |
| pSN24 | pCya encoding the Cya-PieA fusion protein | Cm | This study |
| pSN25 | pCya encoding the Cya-PieE fusion protein | Cm | This study |
| pSN27 | pCya encoding the Cya-PieD fusion protein | Cm | This study |
| pSN28 | pCya encoding the Cya-PieG fusion protein | Cm | This study |
| pSN30 | pEGFP ancoding the GFP-PieC fusion protein | Kan | This study |
| pSN33 | pEGFP ancoding the GFP-PieG fusion protein | Kan | This study |
| pSN35 | pEGFP ancoding the GFP-PieD fusion protein | Kan | This study |
| pSN37 | pEGFP ancoding the GFP-PieE fusion protein | Kan | This study |
| pSN39 | pEGFP ancoding the GFP-PieA fusion protein | Kan | This study |
| pSN45 | pSR47 for insertional inactivation of *pieA* | Kan | This study |
| pSN53 | pSR47s for *ppeA-ppeB* deletion | Kan | This study |
| pSN54 | pEGFP ancoding the GFP-PieA(1-614) fusion protein | Kan | This study |
| pSN55 | pEGFP ancoding the GFP-PieA(1-512) fusion protein | Kan | This study |
| pSN56 | pEGFP ancoding the GFP-PieA(1-323) fusion protein | Kan | This study |
| pSN59 | pEGFP ancoding the GFP-PieA(324-699) fusion protein | Kan | This study |
| pSN60 | pEGFP ancoding the GFP-PieA(513-699) fusion protein | Kan | This study |
| pSN61 | pEGFP ancoding the GFP-PieA(615-699) fusion protein | Kan | This study |
| pSN63 | pET15b encoding 6His-PieA | Amp | This study |
| pSN64 | pSR47s for *lpg1975-pieG* deletion | Kan | This study |
| pSN65 | pCya encoding the Cya-PieB fusion protein | Cm | This study |
| pSN66 | pCya encoding the Cya-lpg1968 fusion protein | Cm | This study |
| pSN67 | pCya encoding the Cya-lpg1975 fusion protein | Cm | This study |
| pSN69 | pEGFP ancoding the GFP-PieB fusion protein | Kan | This study |
| pSN69 | pSR47 for insertional inactivation of *ppgA* | Kan | This study |
| pSN71 | pSR47s for *pieE* deletion | Kan | This study |
| pSN72 | pSR47s for *pieA-pieD* deletion | Kan | This study |
| pSN73 | pET15b encoding 6His-PieA(513-699) | Amp | This study |
| pSN81 | pCya encoding the Cya-PpeA fusion protein | Cm | This study |
| pSN82 | pCya encoding the Cya-PpeB fusion protein | Cm | This study |
| pSN83 | pCya encoding the Cya-PpgA fusion protein | Cm | This study |
| pSN87 | pCya encoding the Cya-PieF fusion protein | Cm | This study |
| pSN88 | pCya encoding the Cya-lpg1973 fusion protein | Cm | This study |
| pSR47 | Suicide vector | Kan | [6] |
| pSR47s | Gene replacement vector | Kan | [6] |

| Primers | | |
|---|---|---|
| Name | Sequence | Restriction site used |
| DsRed T1 Fwd | CG GAT CCC AGG AGT GGT AAT AAT GGC CTC CTC CGA GGA CGT C | BamHI |
| DsRed T1 Rev | GGG AAG CTT CTA CAG GAA CAG GTG GTG GCG G | HindIII |
| SN34 | CGAGATCTTTATGCTGAAATTTTACTCAGA | BglII |
| SN35 | GCGCTGCAGTTATTTATTCTCTGGAGTGA | PstI |
| SN44 | GCGGAATTCCGGATCCTTATGATAAAGGACATTCTC | BamHI |
| SN45 | CGCCTCGAGCTGCAGTTAGTTTCTGCAAAACCC | PstI |
| SN46 | GCGGAATTCCGGATCCTTATGAAAACAGTAAAACAA | BamHI |
| SN47 | CGCCTCGAGCTGCAGTCATAACAAATTGCATGG | PstI |
| SN48 | GCGGAATTCCGGATCCTTATGGAGTCTGTATTTTCA | BamHI |
| SN49 | CGCCAATTCTGCAGTTAGTAGCCGTAATTTAC | PstI, |
| SN50 | GCGCTCGAGTGGATCCTTATGCAAGAAAAAATTATC | BamHI |
| SN51 | CGCCTCGAGCTGCAGCTAGATATTCGTAATTCC | PstI |
| SN72 | GCGCTGCAGACGGTCAATTAGGCTGTGG | PstI |
| SN73 | CGCGGTACCATTTCATTCGGGTGAATGTT | |
| SN74 | GCGCTGCAGACTAATTTATACAATGCTGT | PstI |
| SN75 | GCGGGTACCATAATGCGAGATTTCAATA | KpnI |
| SN76 | CGCTCTAGAAATGGCTTCCAATGACGCG | XbaI |
| SN77 | ACGGCTGGATTTGGCCAAAAACATAATCAC | |
| SN78 | TTTTGGCCAAATCCAGCCGTCCGGCATTAA | |
| SN79 | CCGCGGCCGCGTTAGTACAACAGGGGATTT | NotI |
| SN91 | GCGGGATCCCTAGATATTCGTAATTCC | BamHI |
| SN99 | GCGCATATGCAAGAAAAAATTATC | NdeI |
| SN129 | GCGGCGGCCGCATGCTTCCGCAACTGCTAAT | NotI |
| SN133 | GCGGCGGCCGCCTGAACTGGGGCAATTTGTT | NotI |
| SN134 | AACAAATTGCAACCCACGATCTTTGGAATG | |
| SN135 | ATCGTGGGTTGCAATTTGTTATGAGGTTTAATTGG | |
| SN136 | GCGGAGCTCACAACACCATCCATCCCTGT | SacI |
| SN141 | GCGAGATCTTTATGAAAATTTACAGTATAGTTAATC | BglII |
| SN142 | GCGCTGCAGTTAGGTAAAAGTATAGGATAAATC | PstI |
| SN143 | GCGAGATCTTTATGGGGAAATTTTATATGAGTAAA | BglII |
| SN144 | GCGCTGCAGTCATATGTTGGTTATCACTTTCA | PstI |
| SN145 | GCGAGATCTTTGTGGGTTATAATGAAACCATCT | BglII |
| SN146 | GCGCTGCAGTTATTTGATGCAATTCAAGATGC | PstI |
| SN147 | GCGCATATGAATTCACCACAGAGAATAG | NdeI |
| SN148 | GCGGGATCCTAGATATTCGTAATTCCTTTTC | BamHI |
| SN149 | ATTCCTTTTCTTGAGAATGTCCTTTATCATTTA | |
| SN150 | ACATTCTCAAGAAAAGGAATTACGAATATCTAG | |
| SN151 | GCGTCTAGATGAAACTCTCGCATAACAATTC | XbaI |
| SN152 | GCGGCGGCCGCCTAATGGAAAGTGTTGCTATT | NotI |
| SN153 | TTTACTCTTTCCCTGAAAATACAGACTCCAT | |
| SN154 | ATTTTCAGGGAAAGAGTAAATTACGGCTACTAA | |
| SN155 | CGCTCTAGATTGTTGATAAAACTGAGCCGCA | XbaI |
| SN166 | CGCGGATCCTTATGATTATGTTTTTGGCCAACTGCA | BamHI |
| SN167 | GTGCTGCAGTTACGCTATCTCATTAACTGTT | PstI |
| SN168 | GCCGGATCCTTATGTCACTTGCTACTTATGATG | BamHI |
| SN169 | GTGCTGCAGTTAATGCCGGACGGCTGG | PstI |
| SN170 | GTGGGATCCATGAAAGAACCTCGTGAACTT | BamHI |
| SN171 | GTGCTGCAGTTAGGCGCTTCGTTTGGG | PstI |
| SN175 | GTGGGATCCTTATGAAAAGACTAATTATCTGTAA | BamHI |
| SN176 | GTGCTGCAGTCAAATTTTGTTTATTAAGTTATATG | PstI |
| SN177 | CGCGGATCCTTATGACTAACAAAATCTTAAC | BamHI |
| SN178 | GTGCTGCAGCTAGTGTTTTGTTTTTTTCTTAAT | PstI |

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