**Table S1 Bacterial strains and plasmids used in this study**

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| **Names** | **Characteristics** | **References or sources** |
| *Xanthomonas campestris* pv. *campestris* strains | | |
| 8004 | Wild type, Rifr | [1] |
| ΔavrBs1 | deletion of *avrBs1* gene in 8004, Rifr | Our lab's collection |
| ΔhrcV | deletion of *hrcV* gene in 8004, Rifr | Our lab's collection |
| ΔhrcN | deletion of *hrcN* gene in 8004, Rifr | Our lab's collection |
| ΔhrpF | deletion of *hrpF* gene in 8004, Rifr | Our lab's collection |
| ΔhpaB | in frame deletion of *hpaB* gene in 8004, Rifr | This study |
| Δ45-160 | in frame deletion of 45-160 codons of *hpaB* gene in 8004, Rifr | This study |
| Δ137-160 | in frame deletion of 137-160 codons of *hpaB* gene in 8004, Rifr | This study |
| CΔhrcN | complementation of ΔhrcN containing pJNhrcN, Rifr, Tcr | This study |
| CΔhpaB | complementation of ΔhpaB containing pJNhpaB, Rifr, Tcr | This study |
| CΔ45-160 | complementation of Δ45-160 containing pJNhpaB, Rifr, Tcr | This study |
| CΔ137-160 | complementation of Δ137-160 containing pJNhpaB, Rifr, Tcr | This study |
| ΔavrBs1/pJAG1553 | ΔavrBs1 containing pJAG1553, Rifr, Tcr | This study |
| ΔhpaB/pJAG1553 | ΔhpaB containing pJAG1553, Rifr, Tcr | This study |
| Δ45-160/pJAG1553 | Δ45-160 containing pJAG1553, Rifr, Tcr | This study |
| Δ137-160/pJAG1553 | Δ137-160 containing pJAG1553, Rifr, Tcr | This study |
|  |  |  |
| *E*. *coli* | | |
| DH5*α* | F- *recA* *hsdR17* (*rk-*, *mk+*) *𝛷80* *dLacZ* *DM15* | Gibco BRL, Life Technologies |
| BL21(DE3) | F- *ompT* *hsdR17* (*rB-*, *mB+*) *gal* *dcm* (*DE3*) | Novagen |
| C43(DE3) | derivative of BL21(DE3), better expression of toxic proteins | [2] |
| ED8767/pRK2073 | Helper strain containing pRK2073, *recA met*, Spcr | [3] |
|  |  |  |
| plasmids |  |  |
| pK18mobsacB | Suicide plasmid, *sacB*, Kanr | [4] |
| pK18-ΔhpaB | derivative of pK18mobsacB containing hpaB flanking regions, Kanr | This study |
| pK18-Δ45-160 | derivative of pK18mobsacB containing flanking-regions of 45-160 codons of *hpaB*, Kanr | This study |
| pK18-Δ137-160 | derivative of pK18mobsacB containing flanking-regions of 137-160 codons of *hpaB*, Kanr | This study |
| pET30a | Expression plasmid, T7 promoter, Kanr | Novagen |
| pET30a-1553 | derivative of pET30a encoding 6×His-AvrAC, Kanr | This study |
| pET30a-2081 | derivative of pET30a encoding 6×His-AvrBs1, Kanr | This study |
| pET30a-3006 | derivative of pET30a encoding 6×His-HrcN, Kanr | Our lab's collection |
| pET30a-3012 | derivative of pET30a encoding 6×His-HrcU, Kanr | Our lab's collection |
| pET30a-3015 | derivative of pET30a encoding 6×His-HrcQ, Kanr | Our lab's collection |
| pET30a-3018 | derivative of pET30a encoding 6×His-HpaA, Kanr | Our lab's collection |
| pET30a-HpaB1-144 | derivative of pET30a encoding 6×His-HpaB1-144, Kanr | This study |
| pET30a-3176 | derivative of pET30a encoding 6×His-XC3176, Kanr | This study |
| pET32a | Expression plasmid, T7 promoter, N-Trx tag, Ampr | Novagen |
| pET32a-HpaB | derivative of pET32a encoding Trx-6×His-HpaB, Ampr | This study |
| pGEX-4T-1 | *gst* expression plasmid, *Tac* promoter, GST, pBR322 *ori*, Ampr | Our lab's collection |
| pGEXHpaB | pGEX-4T-1 derivative encoding GST-HpaB, Ampr | This study |
| pGEXHpaB1-50 | pGEX-4T-1 derivative encoding GST-HpaB1-50, Ampr | This study |
| pGEXHpaB1-80 | pGEX-4T-1 derivative encoding GST-HpaB1-80, Ampr | This study |
| pGEXHpaB1-110 | pGEX-4T-1 derivative encoding GST-HpaB1-110, Ampr | This study |
| pGEXHpaB1-136 | pGEX-4T-1 derivative encoding GST-HpaB1-136, Ampr | This study |
| pGEXHpaB85-160 | pGEX-4T-1 derivative encoding GST-HpaB85-160, Ampr | This study |
| pGEXHpaB111-160 | pGEX-4T-1 derivative encoding GST-HpaB111-160, Ampr | This study |
| pGEXHpaB137-160 | pGEX-4T-1 derivative encoding GST-HpaB137-160, Ampr | This study |
| pLAFRJ | Broad host range plasmid, pLAFR3 derivative containing the multiple cloning sites of pUC19, Tcr | [5] |
| pJXG | Broad host range plasmid, pLAFRJ derivative containing DNA fragment encoding 3×FLAG, Tcr | [5] |
| pJAG | Broad host range plasmid, pJXG derivative containing DNA fragment encoding AvrBs159-445, Tcr | [5] |
| pJAA | Broad host range plasmid, pJXG derivative containing DNA fragment encoding Cya, Tcr | [6] |
| pJNhpaB | pLAFRJ derivative containing DNA fragment of 500 bp upstream, ORF and 100 bp downstream of *hpaB*, Tcr | This study |
| pJNhrcN | pLAFRJ derivative containing DNA fragment of 498 bp upstream, ORF and 93 bp downstream of *hrcN*, Tcr | Our lab's collection |
| pJAG0052 | pJAG derivative containing DNA fragment of 555 bp upstream and first 161 codons of *XC0052* (*avrBs2*), Tcr | Our lab's collection |
| pJAG0241 | pJAG derivative containing DNA fragment of 488 bp upstream and first 53 codons of *XC0241* (*xopXccN*), Tcr | Our lab's collection |
| pJAG1210 | pJAG derivative containing DNA fragment of 705 bp upstream and first 131 codons of *XC1210* *(xopK*), Tcr | Our lab's collection |
| pJAG1553 | pJAG derivative containing DNA fragment of 588 bp upstream and first 102 codons of *XC1553* (*avrAC*), Tcr | Our lab's collection |
| pJAG2602 | pJAG derivative containing DNA fragment of 194 bp upstream and first 134 codons of *XC2602* (*avrXccE1*), Tcr | Our lab's collection |
| pJAG3176 | pJAG derivative containing ORF of *XC3176*, Tcr | This study |
| pJAA1553 | pJAA derivative containing DNA fragment of 588 bp upstream and first 102 codons of *XC1553* (*avrAC*), Tcr | [6] |
| pJXG2081 | pJXG derivative containing ORF of *XC2081* (*avrBs1*), Tcr | This study |
| pJXG3002 | pJXG derivative containing ORF of *XC3002* (*hpa1*), Tcr | This study |
| pJXG3176 | pJXG derivative containing ORF of *XC3176*, Tcr | [7] |

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