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

|  |  |  |
| --- | --- | --- |
| **Strain** | Relevant characteristics | Reference/source |
| TG1 | Wild-type *E. coli* K12; F'(*traD*36 *proAB* + *lacIq* *lacZ*ΔM15 *supE hsd*Δ5 *thi* Δ(*lac-proAB*)) | Laboratory collection |
| MG1655 | Wild-type *E. coli* K12 | Laboratory collection |
| S17-1λPir | RP4-2Tc::Mu Km::Tn7 λpir; Pir-dependent replication | [[1](#_ENREF_1)] |
| TG1 derivatives |  |  |
| TG1*gfp* | Insertion, at the λatt site, of *gfp* gene variant Mut3 under control of the constitutive λ*p*R promoter; Cm*R* | Sandra Da Re |
| ∆*leuC* | TG1∆*leuC*::GB; leucine auxotroph; KmR | This study |
| ∆*leuC*::KmFRT | TG1∆*leuC*::KmFRT; mutation obtained from JW0071a; leucine auxotroph; KmR | This study  |
| ∆*leuC*::∆FRT | TG1∆*leuC*::∆FRT; deletion of the KmR by the *flp* recombinase; leucine auxotroph | This study  |
| 36B6*leuC* | Insertion of pSC189 into *leuC*; leucine auxotroph; KmR | This study |
| 39D8*leuC* | Insertion of pSC189 into *leuC*; leucine auxotroph; KmR | This study |
| 91G7*leuC* | Insertion of pSC189 into *leuC*; Leucine auxotroph; KmR | This study |
| 104H7*leuC* | Insertion of pSC189 into *leuC*; leucine auxotroph; KmR | This study |
| *leu-82* | TG1*leu-82*::Tn*10*b; TetR | This study |
| ∆*hisG* | TG1∆*hisG*::KmFRT; mutation obtained from JW2001a; histidine auxotroph; KmR | This study  |
| ∆*pheA* | TG1∆*pheA*::KmFRT; mutation obtained from JW2580a; phenylalanine auxotroph; KmR | This study  |
| ∆*argH* | TG1∆*argH*::KmFRT; mutation obtained from JW3932a; arginine auxotroph; KmR | This study  |
| ∆*ilvA* | TG1∆*ilvA*::KmFRT; mutation obtained from JW3745a; isoleucine auxotroph; KmR | This study  |
| ∆*proC* | TG1∆*proC*::KmFRT; mutation obtained from JW0377a; proline auxotroph; KmR | This study  |
| ∆*tyrA* | TG1∆*tyrA*::KmFRT; mutation obtained from JW2581a; tyrosine auxotroph; KmR | This study  |
| ∆*trpA* | TG1∆*trpA*::KmFRT; mutation obtained from JW1252a; tryptophan auxotroph; KmR | This study  |
| ∆*cysD* | TG1∆*cysD*::KmFRT; mutation obtained from JW2722a; cysteine auxotroph; KmR | This study  |
| ∆*lysA* | TG1∆*lysA*::KmFRT; mutation obtained from JW2806a; lysine auxotroph; KmR | This study  |
| ∆*metA* | TG1∆*metA*::KmFRT; mutation obtained from JW3973a; methionine auxotroph; KmR | This study  |
| ∆*recA* | TG1∆*recA*::KmFRT; mutation obtained from JW2669a; KmR | This study  |
| *lexAind3* | TG1*lexAind3malF*::Tn*10*c; TetR, uncleavable LexA, tested for UVS | This study  |
| ∆*relA* | TG1∆*relA*::KmFRT; mutation obtained from JW2755a; KmR | This study |
| ∆*leuC*∆*recA* | TG1∆*leuC*::∆FRT∆*recA*::KmFRT; leucine auxotroph; KmR | This study  |
| ∆*leuC lexAind3* | TG1∆*leuC*::∆FRT*lexAind3malF*::Tn*10*; uncleavable LexA, tested for UVS, leucine auxotroph; TetR KmR | This study  |
| ∆*leuC*∆*relA* | TG1∆*leuC*::∆FRT∆*relA*::KmFRT; mutation ∆*relA* obtained from JW2755a; leucine auxotroph; KmR | This study |
| ∆*lysA*∆*recA* | TG1∆*lysA*::∆FRT∆*recA*::KmFRT; lysine auxotroph; KmR | This study  |
| ∆*trpA*∆*recA* | TG1∆*trpA*::∆FRT∆*recA*::KmFRT; tryptophan auxotroph; KmR | This study  |
| ∆*leuC*∆*ccdB* | TG1∆*leuC*::KmGB∆*ccdB*::Spec; leucine auxotroph; KmR, SpecR | This study |
| ∆*leuC*∆*hipA* | TG1∆*leuC*::∆FRT∆*hipA*::KmFRT; mutation ∆*hipA* obtained from JW1500a; leucine auxotroph; KmR | This study |
| ∆*leuC*∆*hicA* | TG1∆*leuC*::∆FRT∆*hicA*::KmFRT; mutation ∆*hicA* obtained from JW5230a; leucine auxotroph; KmR | This study |
| ∆*leuC*∆*yoeB* | TG1∆*leuC*::∆FRT∆*yoeB*::KmFRT; mutation ∆*yoeB* obtained from JW5331a; leucine auxotroph; KmR | This study |
| ∆*leuC*∆*chpB* | TG1∆*leuC*::∆FRT∆*chpB*::KmFRT; mutation ∆*chpB* obtained from JW4184a; leucine auxotroph; KmR | This study |
| ∆*leuC*∆*mazF* | TG1∆*leuC*::∆FRT∆*mazF*::KmFRT; mutation ∆*mazF* obtained from JW2753a; leucine auxotroph; KmR | This study |
| ∆*leuC*∆*relE* | TG1∆*leuC*::∆FRT∆*relE*::KmFRT; mutation ∆*relE* obtained from JW1555a; leucine auxotroph; KmR | This study |
| ∆*leuC*∆*lon* | TG1∆*leuC*::∆FRT∆*lon*::KmFRT; mutation ∆*lon* obtained from JW0429a; leucine auxotroph; KmR | This study |
| ∆*serA* | TG1∆*serA*::KmFRT; mutation obtained from JW2880a; serine auxotroph; KmR | This study |
| ∆*thrA* | TG1∆*thrA*::KmFRT; mutation obtained from JW0001a; threonine auxotroph; KmR | This study |
| ∆*glyA* | TG1∆*glyA*::KmFRT; mutation obtained from JW2535a; glycine auxotroph; KmR | This study |
| ∆*glnA* | TG1∆*glnA*::KmFRT; mutation obtained from JW3841a; glutamine auxotroph; KmR | This study |
| ∆*gltA* | TG1∆*gltA*::KmFRT; mutation obtained from JW0710a; glutamic acid auxotroph; KmR | This study |
| TG1*gfp* derivatives |  |  |
| 36B6-GFP*leuC* | Insertion of pSC189 into *leuC*; leucine auxotroph; KmR and CmR | This study |
| 39D8-GFP*leuC* | Insertion of pSC189 into *leuC*; leucine auxotroph; KmR and CmR | This study |
| 91G7-GFP*leuC* | Insertion of pSC189 into *leuC*; leucine auxotroph; KmR and CmR | This study |
| 104H7-GFP*leuC* | Insertion of pSC189 into *leuC*; leucine auxotroph; KmR and CmR | This study |
| 50D6-GFP*leuB* | Insertion of pSC189 into *leuB*; leucine auxotroph; KmR and CmR | This study |
| 44F5-GFP*aroE* | Insertion of pSC189 into *aroE*; aromatic amino acid auxotroph; KmR and CmR | This study |
| 70C4-GFP*argE* | Insertion of pSC189 into *argE*; arginine auxotroph; KmR and CmR | This study |
| 47E6-GFP*ilvC* | Insertion of pSC189 into *ilvC*; isoleucine/valine auxotrophs; KmR and CmR | This study |
| 79E4-GFP*proA* | Insertion of pSC189 into *proA*; proline auxotroph; KmR and CmR | This study |
| 94H3-GFP*proA* | Insertion of pSC189 into *proA*; proline auxotroph; KmR and CmR | This study |
| 84C10-GFP | Unknown insertion of pSC189; threonine auxotroph; KmR and CmR | This study |
| 17E11-GFP | Unknown insertion of pSC189; threonine auxotroph; KmR and CmR | This study |
| 57A6-GFP | Unknown insertion of pSC189; histidine auxotroph; KmR and CmR | This study |
| 3H4-GFP | Unknown insertion of pSC189; proline auxotroph; KmR and CmR | This study |
| 102A7-GFP | Unknown insertion of pSC189; tyrosine auxotroph; KmR and CmR | This study |
| 84A12-GFP | Unknown insertion of pSC189; cysteine auxotroph; KmR and CmR | This study |
| 104D4-GFP*pnp* | Insertion of pSC189 into *pnp*; KmR and CmR | This study |
| 19F12-GFP*rseC* | Insertion of pSC189 into *rseC*; KmR and CmR | This study |
| MG1655 derivatives |  |  |
| *Km*PcL*fim* | MG1655*Km*PcL*fim*, strain constitutively expressing type 1 fimbriae; strong biofilm former; KmR | [[2](#_ENREF_2)] |
| *Km*PcL*fim* *leu-82* | MG1655*Km*PcL*fimleu-82*::Tn*10* b; leucine auxotroph; KmR, TetR | This study |
| MG1655 F’tet∆lac | MG1655 F’tet∆*lacIZ*::*cat*, TetR, CmR | This study |
| SOS-TA | MG1655 F’tet∆lac∆4SOS-TA (*tisAB*::∆FRT, *symER*:: ∆FRT, *dinJyafQ*::∆FRT, *yafNO*::∆FRT)d | This study |
| SOS-TA *leuC* | SOS-TA∆*leuC*::KmFRT, leucine auxotroph; KmR | This study |
| MG1655KmRExTet*lacZ*  | *lacZ* with its own RBS under the control of thekmRExTET cassette PLtetO-1 promoter; KmR | [[3](#_ENREF_3)] |
| MG1655KmRExTet*lacZ*\_F'tet | conjugation of F'tet in MG1655KmRExTet*lacZ*, KmR, TetR | This study |
| Other *E. coli* strains |  |  |
| JJC610 | ∆(*lac*-*pro*) *rpsL* λatt[p*sulA*::*lacZ*], StrepR | [[4](#_ENREF_4)] |
| p*sulA*::*lacZ*\_F'tet | Conjugation of F'tet in strain JJC610, StrepR, TetR | This study |
| **Plasmids** |  |  |
| pSC189 | Plasmid bearing the *mariner* transposon; R6K *ori*; AmpR and KmR | [[5](#_ENREF_5)] |
| pCP20 | Plasmid bearing the *flp* recombinase gene; 30ºC replication; CmR and AmpR | [[6](#_ENREF_6)] |
| pAM34 | Cloning vector whose replication is dependent on the presence of 500 µM of IPTG; SpecR, AmpR | [[7](#_ENREF_7)] |
| pAM34*recA* | *recA* gene cloned in pAM34 ; SpecR, AmpR | [[8](#_ENREF_8)] |
|  |  |  |

a Mutation obtained from the Keio collection gene deletion library mutant [9] and transduced by P1*vir* into the desired background.

b Mutation obtained from [10] and transduced by P1*vir* into the desired background.

c Mutation obtained from [11] and transduced by P1*vir* into the desired background. A single TG1*malF*::Tn*10* had no effect on either ticarcillin or ofloxacin tolerance in biofilms (data not shown).

d Mutation obtained from strain MG1655∆4SOS-TA (*tisAB*::ΔFRT, *symER*::ΔFRT, *dinJyafQ*::ΔFRT, *yafNO*::ΔFRT). Kindly provided by Dr L. van Melderen (unpublished). This particular strain was constructed by introducing the derepressed tetracycline-tagged F episome into MG1655∆4SOS-TA carrying all four SOS-TA deletions.

**Supporting References**

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