

Table SI: Bacterial strains and plasmids

| | Relevant characteristics | Source |
|--|---|----------------------------|
| Strains | | |
| <i>E. coli</i> | | |
| JM109 | <i>el4</i> (<i>McrA</i> ⁻), <i>recA1</i> , <i>endA1</i> <i>gyrA69</i> , <i>thi-1</i> , <i>hsdR17</i> (<i>rk-mk</i> ⁺) <i>supE44</i> , <i>reA1</i> , Δ (<i>lac-proAB</i>) [<i>F'</i> <i>traD36</i> , <i>proAB</i> , <i>lacIZAM15</i>] | Stratagene |
| <i>R. gelatinosus</i> | | |
| Strain S1 | Wild-type | (Uffen, 1976) |
| Δ <i>cadA</i> | <i>cadA</i> deleted strain (<i>AcadA::Tp</i>) | This work |
| <i>cadR</i> ⁻ | <i>cadR</i> inactivated strain (<i>cadR::K</i>) | This work |
| <i>copA</i> ⁻ | <i>copA</i> inactivated strain (<i>copA::Tn5,Km</i>) | (Azzouzi et al., 2013) |
| Δ <i>copI</i> | <i>copI</i> deleted strain (<i>copI::Km</i>) | (Durand et al., 2015) |
| Δ <i>cadA</i> Δ <i>copI</i> | <i>cadA</i> (<i>AcadA::Tp</i>) and <i>copI</i> (<i>copI::Km</i>) deleted strain | This work |
| Δ <i>cadA</i> Δ <i>copA</i> ⁻ | <i>cadA</i> (<i>AcadA::Tp</i>) and <i>copA</i> (<i>copA::Km</i>) deleted strain | This work |
| <i>copA-H</i> ₆ | strain bearing the 6-his tagged <i>copA</i> gene on the chromosome | (Azzouzi et al., 2013) |
| Δ <i>cadA</i> Δ <i>copA-H</i> ₆ | <i>cadA</i> deleted strain (<i>AcadA::Tp</i>) bearing the 6-his tagged <i>copA</i> gene on the chromosome | This work |
| <i>hemN-H</i> ₆ | strain bearing the 6-his tagged <i>hemN</i> gene on the chromosome | This work |
| Plasmids | | |
| pGEM-T | Cloning vector (Ap ^r) | Promega |
| pUC4K | Plasmid bearing the Km cartridge (Ap ^r Km ^r) | Pharmacia |
| p34S-Tp | Plasmid bearing the Tp cartridge (Ap ^r Tp ^r) | (Dennis and Zylstra, 1998) |
| pBBR1MCS-3 | (mob ⁺ , Tc ^r) expression vector | (Kovach et al., 1994) |
| pB106 | pBBR1MSC-4 with 6.6 kb insert containing the <i>cadRA</i> genes isolated by PCR from WT genomic DNA library | This work |
| pG <i>cadA</i> | pGEMT + 1.8 kb PCR fragment containing <i>cadA</i> | This work |
| pG <i>cadA::Tp</i> | Tp cartridge cloned into NarI sites deleting 0.8 kb of <i>cadA</i> in pG <i>cadA</i> | This work |
| pG <i>cadR</i> | pGemT + 1Kb PCR fragment containing <i>cadR</i> | This work |
| pG <i>cadRK</i> | Km cartridge cloned into stuI site inactivating <i>cadR</i> in pG <i>cadR</i> | This work |
| pBK <i>CadA</i> | 6.6 kb KpnI-SacI fragment from pB106 in pBBR1MCS-2 | This work |
| p <i>copA-H</i> ₆ | <i>copA</i> gene cloned in pET-28b plasmid at the EcoRI-XhoI site | (Azzouzi et al., 2013) |
| p <i>hemN-H</i> ₆ | <i>hemN</i> gene cloned in pET-28b plasmid at the NdeI-XhoI site | This work |

Ap^r, ampicillin resistant, Km^r, kanamycin resistant, Tp^r, trimethoprim resistant, Tc^r, tetracyclin resistant.

Table SII: Primers used in this work

| Primer | 5' to 3' Sequence |
|-----------|----------------------------|
| cadAF1 | GAACGCACGCTGCGCCTGGA |
| cadAR1 | CATCAAGGCGGTGTTTCCT |
| cadRF1 | ACGACGACGAGGAGTTCGTCTGA |
| cadRR1 | GATCTGCCCTTCCTCAGACGGCGCAG |
| hemN-NdeI | GGATGAATCATATGGACACGATT |
| hemN-XhoI | CCCGTGCCGGCTCGAGATGATGCG |

References

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- Durand, A., Azzouzi, A., Bourbon, M.L., Steunou, A.S., Liotenberg, S., Maeshima, A. et al. (2015) c-type cytochrome assembly is a key target of copper toxicity within the bacterial periplasm. *MBio* **6**: e01007-01015.
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