**Supplementary File 1. Mutations detected in ΔsagA E. faecium Com15 strain.**

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| Genomic locus | BioCyc annotation | Type of mutation | Notes |
| EFWG\_00994 | Mannosyl-glycoprotein endo-beta-n-acetylglucosaminidase | missense (L200F) | L200 is a conserved residue among GH73 family proteins |
| EFWG\_01683 | 50S ribosomal protein L4 | missense (E16K) |  |
| EFWG\_02413 | aquaporin family protein | missense (A45T) |  |
| EFWG\_02113 | folate family ECF transporter S component | promoter  (-10 site) | promoter identified with BPROM |
| EFWG\_01149 | LacI family transcriptional regulator | silent (L270L) |  |
| between EFWG\_01661 and EFWG\_01662 | N/A | intergenic |  |
| between EFWG\_02410 and EFWG\_02411 | N/A | intergenic |  |
| upstream of EFWG\_02718 | N/A | intergenic |  |
| immediately downstream of EFWG\_04048 | N/A | intergenic |  |
| EFWG\_02083 | collagen-binding protein | insertion/ duplication | There is an apparent duplication of a 78bp fragment, however it is adjacent to a stretch of undefined sequence. Thus, this mutation may not truly be present, and may just be a result of incomplete sequencing. |
| EFWG\_11565 | pseudogene | 3x silent (A451A, A453A, A457A) and insertion/  frameshift | EFWG\_RS11565 is annotated in BioCyc as a pseudogene because of a premature stop codon that splits the gene into two ORFs. The frameshift mutation in Δ*sagA* returns the gene to a single ORF. |