**Table S2. List of 68 genes present in the 66-kb deletion region in Δ*rcsA*-2015.**

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| --- | --- | --- | --- |
| **locus\_tag** | **Annotated Name** | **Length (bp)** | **Coding** **Strand** |
| DSJ\_09100 | IS630 family transposase  | 1054 | forward |
| DSJ\_09105 | histidine utilization repressor  | 756 | forward |
| DSJ\_09110 | HutD family protein  | 546 | reverse |
| DSJ\_09115 | formimidoylglutamate deiminase  | 1356 | reverse |
| DSJ\_09120 | imidazolonepropionase  | 1218 | forward |
| DSJ\_09125 | N-formylglutamate deformylase  | 789 | forward |
| DSJ\_09130 | Asp/Glu/hydantoin racemase  | 636 | reverse |
| DSJ\_09135 | NAD(P)H-binding protein  | 1107 | forward |
| DSJ\_09140 | 23S rRNA (adenine(1618)-N(6))-methyltransferase  | 924 | forward |
| DSJ\_09145 | glnQ  | 723 | reverse |
| DSJ\_09150 | glutamine ABC transporter permease GlnP  | 660 | reverse |
| DSJ\_09155 | glutamine ABC transporter substrate-binding protein GlnH  | 747 | reverse |
| DSJ\_09160 | DNA starvation/stationary phase protection protein Dps  | 504 | reverse |
| DSJ\_09165 | threonine/homoserine exporter RhtA  | 912 | reverse |
| DSJ\_09170 | ompX  | 513 | forward |
| DSJ\_09175 | hypothetical protein  | 186 | reverse |
| DSJ\_09180 | transcriptional regulator MntR  | 459 | forward |
| DSJ\_09185 | anion transporter  | 1110 | forward |
| DSJ\_09190 | multidrug export protein EmrA  | 1149 | forward |
| DSJ\_09195 | EmrB/QacA family drug resistance transporter  | 1569 | forward |
| DSJ\_09200 | RND transporter  | 1530 | forward |
| DSJ\_09205 | DNA-binding protein  | 402 | forward |
| DSJ\_09210 | ABC-F family ATPase  | 1593 | forward |
| DSJ\_09215 | molybdopterin-synthase adenylyltransferase MoeB  | 768 | reverse |
| DSJ\_09220 | molybdopterin molybdotransferase  | 1236 | reverse |
| DSJ\_09225 | beta-aspartyl-peptidase  | 960 | forward |
| DSJ\_09230 | glutathione ABC transporter ATP-binding protein GsiA  | 1830 | forward |
| DSJ\_09235 | glutathione ABC transporter substrate-binding protein GsiB  | 1536 | forward |
| DSJ\_09240 | glutathione ABC transporter permease GsiC  | 927 | forward |
| DSJ\_09245 | glutathione ABC transporter permease GsiD  | 906 | forward |
| DSJ\_09250 | cytoplasmic protein  | 450 | forward |
| DSJ\_09255 | rimO  | 1329 | reverse |
| DSJ\_09260 | carbonic anhydrase  | 636 | forward |
| DSJ\_09265 | oxidoreductase  | 1137 | forward |
| DSJ\_09270 | hydrolase  | 657 | reverse |
| DSJ\_09275 | serine-type D-Ala-D-Ala carboxypeptidase  | 1203 | forward |
| DSJ\_09280 | undecaprenyl-diphosphate phosphatase  | 606 | reverse |
| DSJ\_09285 | transporter  | 1689 | reverse |
| DSJ\_09290 | hypothetical protein  | 366 | forward |
| DSJ\_09295 | glutaredoxin  | 264 | reverse |
| DSJ\_09300 | hypothetical protein  | 255 | forward |
| DSJ\_09305 | nitroreductase A  | 723 | forward |
| DSJ\_09310 | ribosomal protein S6 modification protein  | 903 | forward |
| DSJ\_09315 | sensory transduction regulator  | 480 | forward |
| DSJ\_09320 | IS66 family transposase  | 1572 | reverse |
| DSJ\_09325 | transposase  | 348 | reverse |
| DSJ\_09330 | transposase  | 630 | reverse |
| DSJ\_09335 | spermidine/putrescine ABC transporter substrate-binding protein PotF  | 1110 | forward |
| DSJ\_09340 | potG  | 1134 | forward |
| DSJ\_09345 | putrescine ABC transporter permease PotH  | 963 | forward |
| DSJ\_09350 | putrescine ABC transporter permease PotI  | 846 | forward |
| DSJ\_09355 | hypothetical protein  | 468 | forward |
| DSJ\_09360 | rumB  | 1146 | forward |
| DSJ\_09365 | arginine ABC transporter substrate-binding protein  | 732 | reverse |
| DSJ\_09370 | artM  | 669 | reverse |
| DSJ\_09375 | arginine transporter permease subunit ArtQ  | 717 | reverse |
| DSJ\_09380 | arginine ABC transporter substrate-binding protein  | 732 | reverse |
| DSJ\_09385 | arginine ABC transporter ATP-binding protein ArtP  | 750 | reverse |
| DSJ\_09390 | lipoprotein  | 540 | reverse |
| DSJ\_09395 | hypothetical protein  | 321 | forward |
| DSJ\_09400 | N-acetylmuramoyl-L-alanine amidase  | 825 | forward |
| DSJ\_09405 | low-specificity L-threonine aldolase  | 1062 | reverse |
| DSJ\_09410 | pyruvate oxidase  | 1722 | reverse |
| DSJ\_09415 | hypothetical protein  | 900 | reverse |
| DSJ\_09420 | hypothetical protein  | 306 | forward |
| DSJ\_09425 | ATP-dependent endonuclease  | 1344 | forward |